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OF THE

# KANSAS MEDICAL SOCIETY

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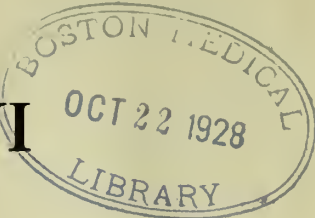
EDITED BY  
WILLIAM E. McVEY, B.S., M.D.  
UNDER SUPERVISION OF THE COUNCIL

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# THE JOURNAL

of The

## Kansas Medical Society

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TOPEKA, KANSAS, JANUARY, 1926

No. 1

### Club Feet

H. R. ALLEN, M. D., Indianapolis, Ind.

(Read at the Annual Meeting of the Kansas Medical Society at Topeka, May 6-7, 1925.)

In presenting the subject of club feet I am presenting merely one of several surgical subjects that has been reduced to a mechanical basis.

If I can convince you that I am correct in assuming that all surgery upon bones and muscles and nerves and white fibrous tissue lies completely within the scope of mechanics, then the real purpose of my visit here will be fulfilled.

Every one knows that all surgical instruments and all splints are nothing but mechanical devices and our common sense tells us that every surgical move or use of energy is a mechanical use of energy. In the medical schools we found bones, muscles, fascia and ligaments grouped under the head of "mechanical parts of the body."

We may conclude from these facts that a surgeon applying energy to surgical instruments while operating upon the mechanical parts of the body, is rather completely enveloped in the fixed science of mechanics.

Since it is evident that he is going to use mechanics it will pay him to use correct and appropriate mechanical principles and devices.

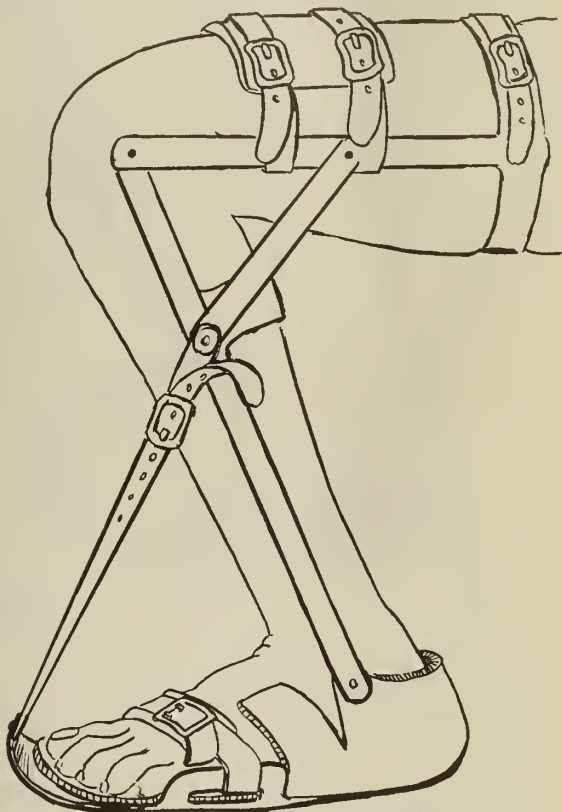
If his text books happen to be upside down and reversed upon many very important mechanical items then why not have a few new books consistent with the mechanical age in which we find ourselves living. We can turn our present books in with the rest of the relics that Columbus brought over here.

My belief that surgery should be on a sound mechanical basis is either all wrong or all right since there are no half way, wabbling, jelly fish theories in any fixed science. In order to test out this suggestion let us apply it to the compound deformity called "Club Feet," and see what happens to it.

This deformity has a name and a cause and etiology and a result. It also has, as we shall soon find out, a never failing treatment that results in a foot with normal form and

function. Possibly I should say that it has not failed once in over thirty years.

Under the rules of our system the name of this compound deformity must refer specifically and exclusively to each of its four component parts. These four are, varus, adductus, cavus and equinus. Irregularly associated with these constantly present types of foot deformity there may be occasionally other deformities, or diseases of bones or soft tissues, which are to be regarded as



H. R. A.

Fig. A. Instrument used in adducto-cavus correction.

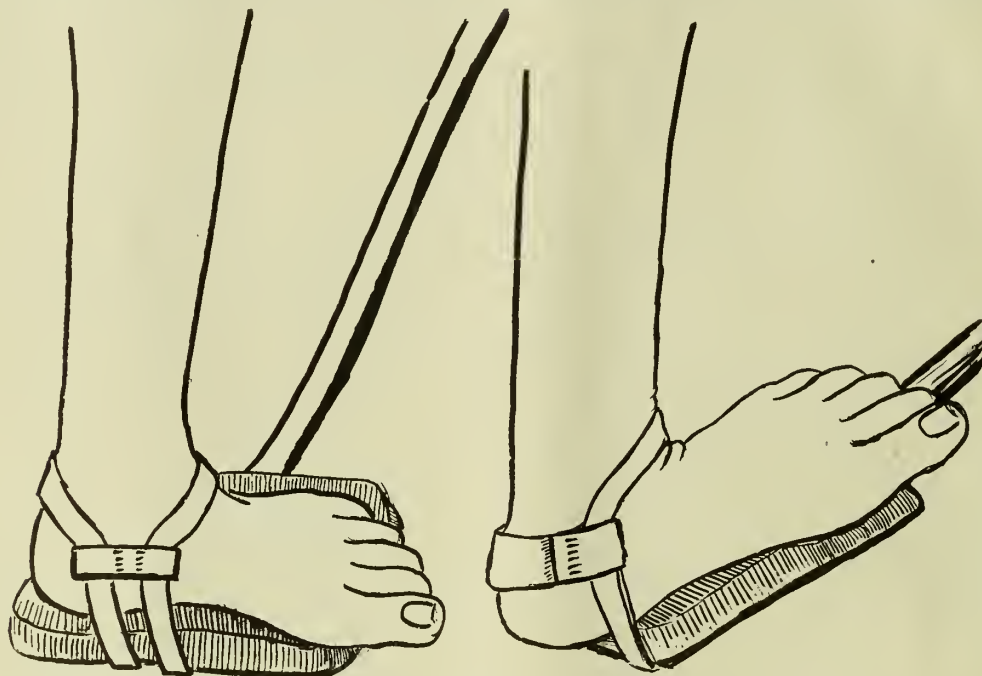
mere complications of the standardized club foot deformity since these occasional deformities or diseases are not present in all club feet.

The cause of club foot is unasserted muscle balance but the alleged causes producing "unasserted balance" range over vague the

ories as numerous as they are useless. They might be classed among the theories that regulate the number and arrangement of spots on an unborn calf. Such theories are useless to us since treatment does not begin until after the child is born and there is no satisfactory way of knowing before hand that the deformity exists.

The result of unasserted muscle balance is of much importance as it explains most interesting anatomical conditions. This lack of balance follows the old rule of the strong dominating the weak, with permanent loss of development for both. As the strong muscles contract the opposing weaker muscles elongate and become even weaker. Their

in order to permit the bones to reach their intended positions. This one item pertaining to the short soft tissues that hold bones out of their proper places is the real clue to treatment. You never cut nor do you ever touch a bone no matter how old or how extreme the deformity is. (\*3). You merely elongate the short soft tissues by tearing or cutting. If you cut you use a tenotome and the hole it makes in the skin is always less than one-fourth of an inch in length. If you tear the short tissues you make no hole in the skin. If the white fibrous tissues are too strong to be torn by hand you can tear them exactly with these two mechanical devices. These two surgical instruments are



M. R. A.

Fig. B. Instrument used in varo-equinus correction.

progressive weakness calls for less energy from the strong muscles. All of you know that the calf of the leg is thin and undeveloped in all club feet. (\*1).

As the strong muscles continue their deforming contractions the white fibrous tissues (\*2) adapt their dimensions to the undistributed conditions that result in a fixed deformity with very slight change of form for any tarsal bone.

In a few words we have learned the truth about the construction of this deformity. Having seen how a club foot is made we have a little inside information as to how to undo it, and we have also found that we are to deal exclusively with white fibrous tissues

precision tools in the sense that they do precisely what they are intended to do and do it every time. They are named according to the work they do. The first used is the adducto-cavus corrector (Fig. A) and the second to use is the varo-equinus corrector. (Fig. B) Their pressure never exceeds 10 seconds du-

(\*1) In unilateral club foot the calf on the deformed side never becomes as large as the calf on the unaffected side.

(\*2) In our text books we are correctly informed that white fibrous tissue is inelastic. But there are two other mechanical properties equally important that our books fail to mention. This tissue is slowly ductile and slowly absorbable. In other words it is inelastic, adaptive tissue and as such it plays a most important part in orthopedic surgery.

(\*3) I have corrected this deformity in several people over sixty years of age.

ration. They were designed to fill two purposes each. After the soft tissues give sufficient freedom to the bones, the tip of the little finger will easily lead the foot into the extreme positions that are direct counter parts of the original four distinct deformities. Remember too that success or failure

so that the popliteal angle is much less than a right angle. The maintenance of extreme over-correction for each of the four distinct deformities is also provided for with easily controlled adjustments so that retention pressure can be altered as often as desired. These braces are easily removed for daily

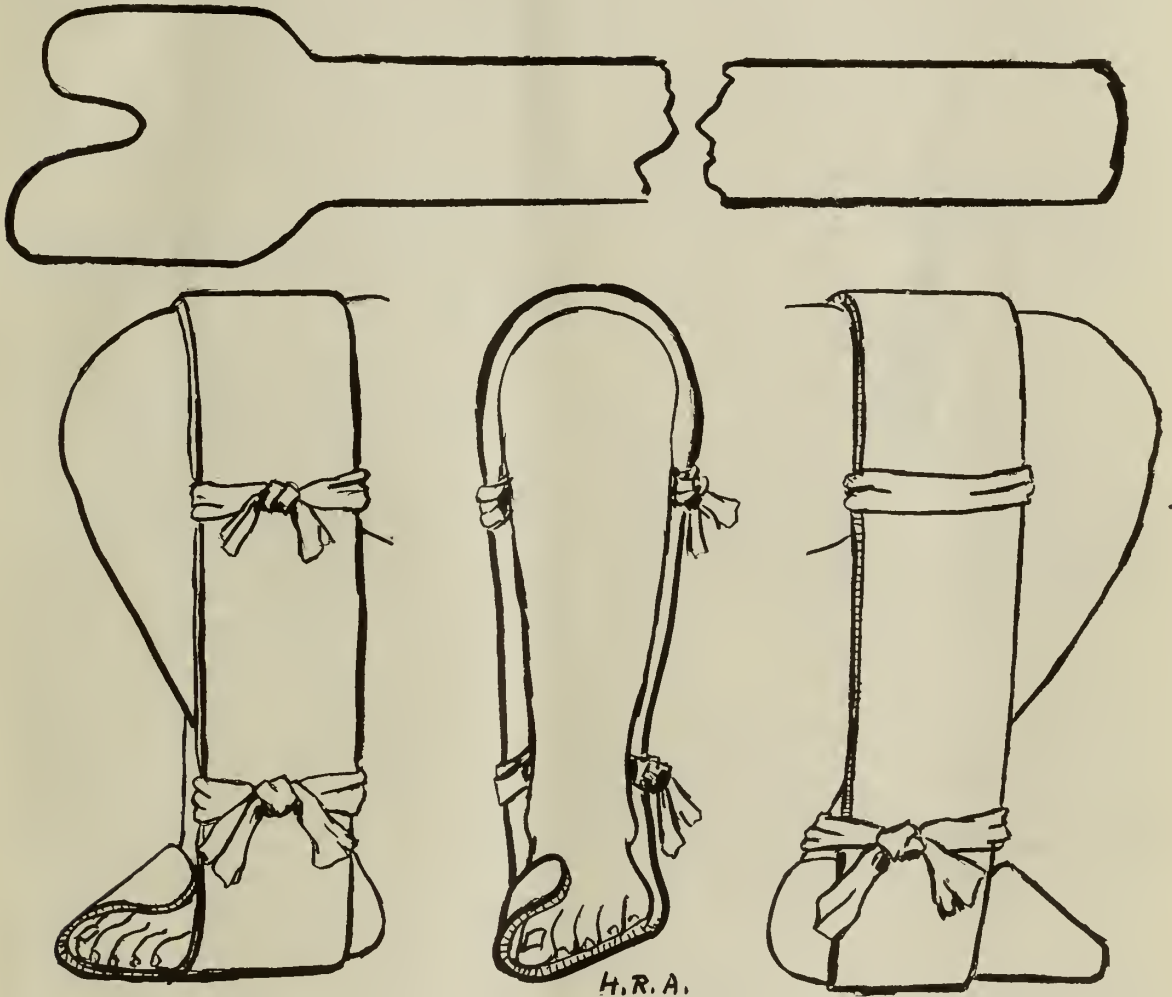


Fig. C. Retention brace for infants and small children. At the top is shown galvanized iron strip before being padded and shaped to fit child's leg and foot.

lies in the zone of the tarsal bones. They must be free to enter into and to remain in normal position and relation with each other.

There is no use in making an excellent reduction of a club foot unless you can retain all that you have reduced. There are two kinds of retention braces. One is for infants and small children (Fig. C) and the other is for larger children and adults and also for aged people. (Fig. D) Both the large and small braces are built on the plan of keeping the foot and femur about parallel with each other and the leg must be flexed on the thigh

bath, for daily massage and for daily inspection. They are worn day and night until a condition is reached in which the foot shows no tendency to return to its original deformity although it may have been free from restriction for several hours. At this time the walking braces (Fig. E) is used when the retention brace is not used. The entire period from the day of operation to the end of brace wearing never should exceed one year even in aged people. Younger people, of course, are through wearing braces earlier.

Most of my "club foot" work is with so



called "recurrent club feet" as if there were two kinds of club foot—namely, those that are destined for correction and those that are intended for repeated surgical failures. The word "recurrent" provides a polite and

many bones cut or too much bone removed and some show long scars instead of puncture wounds for doing tenotomy. There is another class of recurrency due to too much cicatricial contraction resulting from large ulcers produced by prolonged pressure of plaster of Paris. Of course, these ulcers are not discovered until the cast is removed and then they require plastic surgery. I have a case of this kind waiting for me now.

With intelligent treatment there is no such thing as "recurrent club feet." It is just as easy for the surgeon and much easier on the patient to have perfect results every time.

I do not use plaster of Paris dressings for just 21 good reasons. One of the reasons is that it is not adjustable, so the other 20 don't count.

—R—

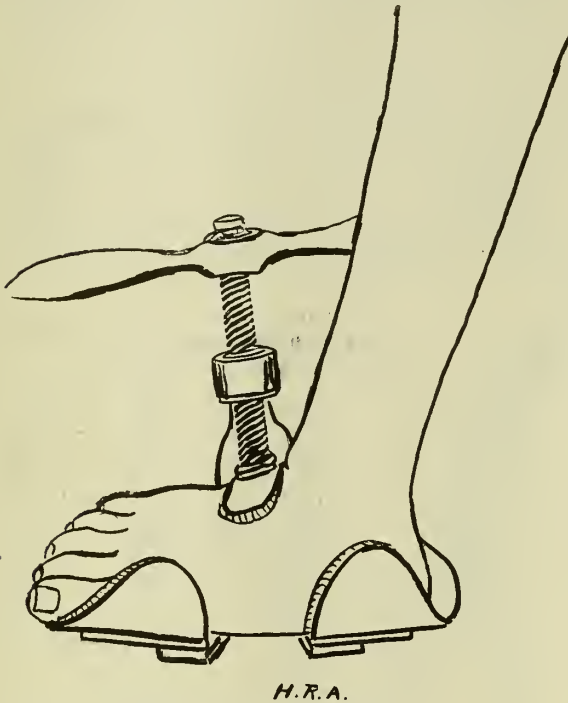
### Iodine and Goiter

H. N. TIHEN, M.D., Wichita

(Read at the Annual Meeting of the Kansas Medical Society at Topeka, May 6-7, 1925.)

The use of iodine in the prevention and treatment of goiter has been a subject of wide spread interest for at least the past century, but it is only in the past few years that any definite ideas have crystallized out of the enormous amount of investigation done along this line. As far as one is able to go back into history, mention is made of the use of iodine containing compounds in the treatment of goiter. Burnt sea sponge, whose chief value depends on a very high content of iodine salt was used by the Chinese for fifteen centuries before Christ as a cure for goiter. The use of burnt sponge is also mentioned by various of the ancient medical masters, such as Hippocrates, Galen, and Pliny. The under-lying reason for the value of burnt sponge was, of course, long unknown. In 1811 the element, iodine, was discovered and isolated by Courtois and in 1820 Coindet reported the reduction in size of certain goiters produced by the administration of iodine. In 1850, Chatin urged the use of iodine in the treatment and prevention of simple goiter and wrote extensively upon the subject. In 1895, Baumann detected iodine in the thyroid gland. In 1914, Kendall isolated a crystalline chemical compound, which is probably the active constituent of the thyroid secretion. This compound to which he gave the name of Thyroxin contains 65% of iodine.

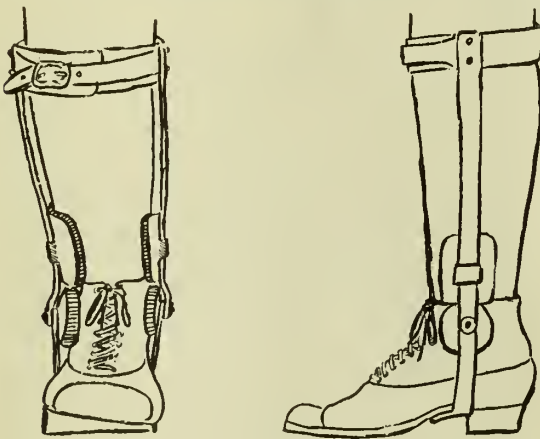
To obtain a better understanding of the relation of iodine to the normal and ab-



H. R. A.

Fig. D. Adult retention brace.

diplomatic way of admitting repeated failures, and judging from the chapters printed in our best sellers upon "recurrent club feet" the failures must be rather abundant. These recurrences are chiefly due to incomplete reductions or to inadequate retention or to both. Some recurrences have had too



H. R. A.

Fig. E. Walking brace applied so as to hold the foot in a valgus position. This is accomplished by means of the brace pads and the beveled shoe sole.



normal conditions of the thyroid gland, it is necessary to study the occurrence of iodine in nature. The chief natural salt of this element is sodium iodine. It always occurs in salt sea water and is contained in the tissues of many of the sea animals, whose disintegration returns the iodine to the sea. In inland salt beds, sodium iodide was originally deposited with the sodium chloride, but because of its much greater solubility, the sodium iodide has gradually been dissolved and washed out of the inland deposits of salt. In addition in the salt industry many chemicals are obtained as valuable by-products, and in the purification process the sodium chloride is entirely freed from iodine. A small amount of iodine is contained in a few foods, such as peas, beans, and asparagus, and a more appreciable quantity in the sea foods. Small quantities of iodine are present in the drinking water of many regions. However, in other regions, the drinking water may be practically devoid of iodine. Therefore, under present conditions the average individual has to obtain his necessary supply of iodine from sea foods, drinking water, and from very small amounts of iodine in various other foods. The relatively large amounts of iodine in sea foods results in a much lesser prevalence of goiter in maritime regions. In drafted men, goiter in inland recruits as compared to recruits from maritime regions was in ratio of 17 to 1. It is also true that sea animals never have goiters. It occurs frequently in many inland animals.

Iodine is found in very minute quantities in all of the tissues of the body, but by far the greatest amount of iodine is contained in the thyroid gland. The normal thyroid tissue when dried contains .1 to .6 per cent of iodine. Marine and Lenhart have shown experimentally that if the iodine content of the thyroid gland is kept above .1 per cent no hyperplastic changes occur and that they frequently occur when the iodine content falls below this point. This is the scientific basis for the fact that goiter may be largely prevented by making a sufficient amount of iodine available to the thyroid gland.

The prevention of endemic goiter by the use of iodine has upon a number of occasions been definitely accomplished in animals, and more recently it has been just as definitely accomplished in human beings. In this paper the term endemic goiter is taken to include the simple non-toxic hyperplastic goiters of puberty, the

non-toxic colloid goiters, the non-toxic adenomata, cretinism, and the cretinic degenerations. From time to time endemic goiter has seriously crippled certain animal industries. This has occurred most prominently in the hog raising industry in Montana where the hairless hog disease threatened to wipe out the business. It was recognized that this disease was due to endemic goiter occurring in the hogs and it was soon proven that the administration of small amounts of iodine in the food quickly wiped out the disease. Goiter in the fish of fish hatcheries has formerly practically prevented the development of this industry in certain localities. It was found that the addition of small amounts of iodine to the water prevented the occurrence of goiters and permitted the development of this industry.

All of the factors entering into the production of endemic goiter are not known, but it is safe to say that the immediate and most important cause is an insufficient supply of iodine to the organism. It can be shown that a simple lack of iodine in the food and drinking water will produce a high incidence of goiter, but the clinical experiments of McCarrison in India cannot be overlooked in which he seems to prove that some living micro-organism in the drinking water is the responsible agent in the regions studied by him. However, in view of all of the known facts, it seems probable that the role of the micro-organisms is simply to take up the iodine in the water and food either directly or after establishing themselves in the human gastro-intestinal tract, thereby making the iodine unavailable for the human organism. With the above facts known, establishing a lack of iodine as the immediate cause of endemic goiter and with the remarkable results observed in the prevention of goiter in animal industries by the administration of iodine, it seemed logical to try the administration of iodine to human beings in certain regions where goiter is very prevalent to try to prevent its occurrence. Within the past few years, this has been done on a large scale in Switzerland and in a few places in this country. Perhaps the most carefully observed and controlled experiment in this direction is that of Kimball and Marine among the school children in Akron, Ohio. Goiter in this city was extremely prevalent among school children and after securing the cooperation of the school authorities and of the children and their parents, they ad-

ministered three grains of sodium iodide daily for ten days twice each year to many school children in the city. Among 4,000 school children observed at the beginning of the experiment, 57% had a thyroid enlargement. Out of this original 4,000 about one-half took the prophylactic iodine treatment and in this group no new enlargements of the thyroid ever occurred and 38% of the former enlargements decreased. In the other group, numbering approximately one-half of the observed pupils, iodine was not taken and 16% who originally had normal thyroids, developed goiter.

From the fore-going facts, it has been proven without a reasonable amount of doubt that endemic goiter including simple hyperplastic goiters, simple colloid goiters, non-toxic adenomatous goiters, cretinism, and cretinic degenerations can be prevented by the wide-spread administration of minute quantities of iodine. The necessary consumption of iodine to prevent goiter is about 5 grains per year for each individual. Such infinitesimal amounts cannot be productive of harm. Several methods for this administration on a large scale have been suggested, the most successful being the following:

1. The administration of a tablet once a week containing 5 to 10 mgms. of iodine. While this is a very simple procedure and one that could be carried out by everyone, yet it is one that would not be carried out by many people.

2. The addition of a small amount of iodine to the drinking water of a community. This method is satisfactory for use in cities where the municipal water supply is used for drinking purposes, but has the drawback that it could not be used in the rural communities where there is no common source of drinking water.

3. The use of iodized salt. This seems to be easily the most satisfactory and practical method. The amount of iodine necessary to insure an adequate supply by this method is one part of sodium iodide to 5,000 parts of salt. If this amount was incorporated in all salt as it leaves the factory, within a few years, practically all endemic goiter would disappear. As a public health measure the use of iodized salt should be encouraged by the medical profession.

The prevention of endemic goiter as dealt with in the foregoing part of this paper should not be confused with the *treatment* of the simple non-toxic endemic goiters. The majority of such goiters, for

which treatment is sought, are the simple hyperplastic and colloid goiters of adolescence, arising from the 12th to the 20th years. These goiters may be quite small and of very little cosmetic importance, but occasionally, and in some regions frequently, they become large enough to be very unsightly. When small these goiters practically can always be held at a stationary point in size and may be decreased by the administration of small amounts of iodine. A suitable average dose is 1 grain of sodium iodide daily for one month twice a year. However, if these goiters are very large the use of iodine alone may not appreciably reduce them. It seems that this type of thyroid enlargement is an effort on the part of the gland by hyperplasia and colloid deposition to supply the tissues with their requisite amount of thyroxin and it has been found that if the tissues are supplied with some additional thyroxin the demand upon the thyroid gland is decreased and its hyperplastic changes and colloid deposition are quickly reduced. The basal metabolism in these cases is usually slightly below normal and Plummer has demonstrated that the best results are obtained in these cases when the basal metabolism is increased by about 10 per cent. To bring this about it is best to use thyroid extract. The degree of absorption of thyroid extract from the gastro-intestinal tract varies greatly in each individual case and in some individuals the basal metabolism may be raised 10 per cent by administration of 1-2 grain of thyroid extract daily and other individuals may require as much as 6 to 8 grains daily to secure the same result. As soon as the demand upon the thyroid gland is lessened by giving this additional thyroxin and as is evidenced by this slight increase in the basal rate, the thyroid quickly reduces in size. Thereafter by a judicious use of small amounts of iodine and thyroid extract for occasional periods over one or two years the gland can be kept from becoming appreciably enlarged.

Under 25 years of age, such treatment is practically always safe and harmless. However, it should be made an almost invariable rule that iodine should never be administered to an individual over 25 years of age, who has a simple non-toxic goiter, either in attempts to cure the goiter or for any other purpose, because so many of such goiters contain adeomata which are not hyper-functioning and the use of iodine very



frequently converts these into hyper-functioning or toxic adenomata.

Toxic goiters may clinically be divided into the toxic adenomatous goiters and exophthalmic goiters. The toxic adenomatous goiters arise from the non-toxic endemic adenomatous goiters, in which the adenomata have developed an increased and uncontrolled function. The etiology of exophthalmic goiters is less certain, although many facts support the idea that they may in some way also arise from an iodine deficiency. Therefore, it seems that if the wide-spread use of small amounts of iodine was carried out as advised for the prevention of the sample endemic goiter that almost certainly the toxic adenomatous goiters would be prevented and very probably also the exophthalmic goiters. However, this proposition cannot be stated with certainty.

Recently the use of iodine in the treatment of toxic goiter has assumed a place of considerable importance in thyroid work. It can be said definitely that the use of iodine will often change a non-toxic adenomatous goiter into a toxic one and that in the toxic adenomatous goiter, iodine is never of any value and perhaps may be harmful. Therefore, the use of iodine in the treatment of toxic goiters is restricted to use in the exophthalmic type.

In 1862, Trousseau reported the following incident noted in his practice. He was consulted by a female patient with a typical exophthalmic goiter and all its associated symptoms, including a pulse rate of 140 to 150 per minute. Thoughts of the occasional harmful effects of iodine in goiter patients ran through his mind and in writing the prescription with intention of giving tincture of digitalis he inadvertently wrote for tincture of iodine 15 to 20 drops daily. In 2 weeks the patient returned very much improved with a pulse rate down to normal and with nearly complete disappearance of her symptoms. However, Trousseau discovered his prescription error, corrected it, stopping the iodine and using the digitalis and in another 2 weeks the patient returned with her pulse rate again at 150 and again showing all her symptoms present on her first appearance. Therefore, he at once returned to the use of iodine.

In general, however, the use of iodine in the treatment of toxic goiter has been widely condemned until within the past two years, since which time largely through the work of Plummer, its value

and its limitations in the treatment of exophthalmic goiter have been worked out and placed on a firm foundation.

Its chief effect is that of securing the so-called iodine remission in the patients with exophthalmic goiters. If such a patient is placed upon iodine, in nearly all cases a remission in all of the symptoms rapidly occurs. The basal metabolic rate falls rapidly 30 to 50 per cent, or more, often to normal, the pulse rate returns to normal, the nervous excitability disappears, and nearly all of the symptoms of the disease largely disappear. This change will begin almost immediately upon the use of iodine and usually in 7 to 10 days, at the most 3 weeks, the patients appear to have been practically cured. However, if the iodine is discontinued, the former symptoms usually recur rapidly within a few days or a week. If the iodine is continued in nearly all cases the hyperthyroidism gradually returns reaching its original severity in 1 to 3 months. Therefore, the use of iodine in these cases is rarely curative. It simply secures a remission in these dangerously sick patients during which remission other more curative measures may be carried out, chiefly x-ray treatment or partial thyroidectomy, the latter usually being the more preferable mode of treatment. Thus it is seen that iodine in these cases is chiefly of value as a pre-operative treatment, converting the desperately dangerous surgical risks into cases with a very small surgical mortality. By the use of iodine in this way, the great majority of thyroid injections, ligations, and other temporizing measures can be discarded and a partial thyroidectomy performed at once. If these patients are properly iodized before the operation, the post-operative crisis of hyperthyroidism will rarely occur. The manner of administration of the iodine is probably of little moment, but Lugol's solution has been most widely used—10 to 30 to 60 minims daily, depending on the severity of the case for 1 to 3 weeks before the operation and 40 minims in the evening and morning previous to the operation.

Plummer summarizes his results in the use of iodine in exophthalmic goiter as follows:

1. An immediate remission in all of the symptoms of the disease in practically all cases.
2. The avoidance of practically all post-operative hyperthyroid crises.
3. The discarding of 75% of the pre-

liminary operative steps formerly required.

4. Reduction of the operative mortality from 3 per cent to .5 per cent.

Means, Walcott, and Segall of Boston in a series of 42 exophthalmic goiter cases, using 15 to 45 drops of Lugol's solution daily summarize their results as follows:

1. 80 per cent gave an abrupt remission.

2. The basal metabolism in 7 to 10 to 21 days dropped rapidly from 25 to 50 per cent, often to normal.

3. In 1 to 3 months even if iodine is continued the symptoms return to their original height.

4. They therefore advise that if surgery is to be used that there should be no gap between the giving of the iodine and the operation and that the operation should be performed as soon as the remission is secured.

In concluding this paper the following points may be summarized:

1. That practically all the endemic goiters and with them probably most or all of the toxic goiters can be prevented by the universal use of small amounts of iodine, preferably in the form of iodized salt.

2. That most endemic goiters in individuals under 25 years of age can be successfully treated by the combined use of iodine and thyroid extract.

3. That iodine is of no value and possibly is harmful in the treatment of toxic adenomatous goiter.

4. That iodine is extremely valuable in the treatment of exophthalmic goiter, chiefly as a pre-operative measure.

R

### Thyroid Survey of 7,051 Students in Grade and High Schools in Topeka

EARLE G. BROWN, M.D., Topeka, Kansas

The primary purpose in making a thyroid survey in Topeka was to determine the extent of thyroid enlargement among the students in the various city schools. It was the opinion of a number of the medical men in the city who had been consulted, that they had seen in the past several months an increasing number of thyroid enlargements. Consequently, request was made of the Board of Education that the City Department of Health be granted permission to make a thyroid survey of the city schools.

Similar requests were made of those in charge of the parochial schools. As a result of our requests, permission was readily granted for the survey.

Personnel. The services of nine physicians were enlisted to aid in the work. Three school nurses and one from the City Department of Health assisted physicians in making records of the examinations and additional nurses were secured through the co-operation of the Public Health Nursing Association and the local hospitals.

In order that all members of the examining staff would use the same standards—as to the differentiation of the different degrees of enlargement—the first three schools were surveyed by the staff working together. In the remaining schools, depending on the number of students enrolled, two or three physicians were assigned to make the examinations. In this way, it was possible to survey three to five schools each day.

In all publicity relative to the survey and its results, an attempt was made to avoid the use of the term "goiter" and refer to the condition found, only as a "thyroid enlargement." During the survey, the staff of physicians, even though marked enlargements were found, referred to them only as "thyroid enlargements." Evidently there appears to be no definite division between the normal and abnormal thyroid gland. In cases where infection might cause enlargement of the gland, no attempt was made to detect the cause and these were likewise classified as "thyroid enlargements."

Marine and Kimball who were early investigators as to the factors entering into thyroid enlargements, divided them into three groups: Slight, Moderate and Marked. This classification was used by Marine and Kimball in practically all of their work and by others who made thyroid surveys in different communities. The classification used in the Topeka survey was used by Dr. Robert Olesen<sup>1</sup> of the United States Public Health Service in his survey of Cincinnati school children. This classification, according to Dr. Olesen was suggested by Dr. Taliferro Clark, also of the United States Public Health Service. The enlargements were designated as "very slight," "slight," "moderate," "marked," "very marked" and "Adenomas."

Dorland<sup>2</sup> states that goiter is "an enlargement of the thyroid body, causing a swelling in the front part of the neck," while Stedman<sup>3</sup> states that "goiter is a



CHART I—NUMBER OF EXAMINATIONS MADE AND THYROID ENLARGEMENTS FOUND, BY SEX, IN TOPEKA SURVEY.

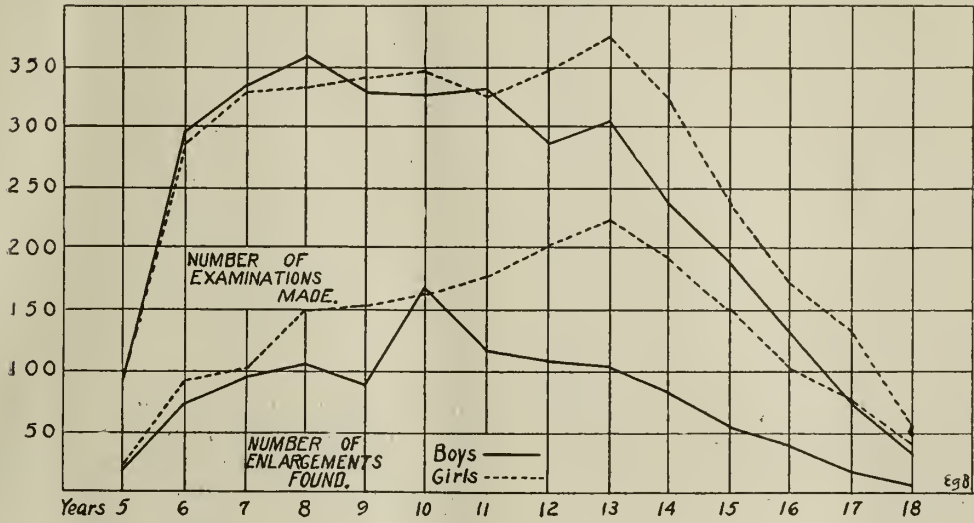


CHART II - NUMBER OF "VERY SLIGHT" ENLARGEMENTS FOUND IN TOPEKA SURVEY.

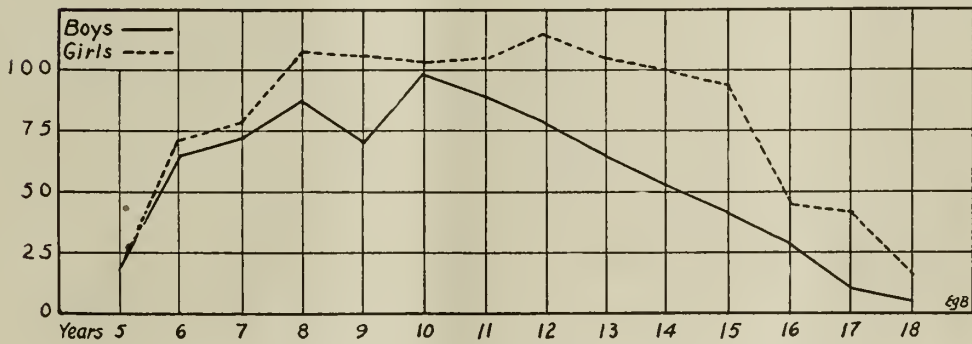


CHART III - NUMBER OF "SLIGHT" ENLARGEMENTS FOUND IN TOPEKA SURVEY.

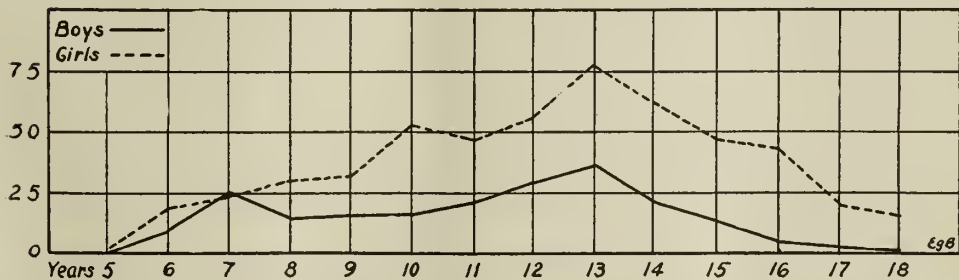
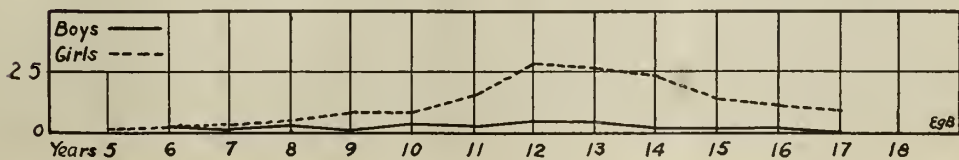


CHART IV - NUMBER OF "MODERATE" ENLARGEMENTS FOUND IN TOPEKA SURVEY.





chronic enlargement of the thyroid gland, not due to a neoplasm, occurring endemically in certain localities, especially mountainous regions and sporadically elsewhere."

Plummer<sup>4</sup> says "no definite boundary line between the normal and excessive storage of colloid can be pointed out. Storage to the degree of making the human thyroid easily palpable is generally accepted as abnormal." Boothby<sup>5</sup> however, says that "slight, temporary enlargement of the thyroid gland occasionally occurs in young people of both sexes in regions where goiters are endemic. The enlargement is symmetrical and soft and appears to accompany periods of stress. It is not infrequently of periodic character, being prone to occur at the beginning of menstruation and during pregnancy. The changes in size here referred to are slight and not, as a rule, beyond the limits of possible physiologic variation."

Very little difficulty was experienced in determining the degree of enlargement in pronounced cases, i. e., those graded 3, 4, 5 or the adenomas. Olesen<sup>6</sup> states that "by remembering that the very slight enlargement is usually palpable but not often visible, or visible only to a limited extent and that the enlargement is usually confined to the isthmus the differentiation can readily be made. The slight enlargement often takes the form of a globular swelling and is always plainly visible. After the distinction is clear little difficulty is experienced in designating the first and second degrees of enlargement."

Hertzler<sup>7</sup> says that "ordinarily in average necks the normal thyroid gland is just palpable to experienced hands. If easily palpable, it is probably slightly enlarged. If palpable in a plump patient, it may be regarded as being enlarged. Often an increase in consistency is as valuable as evidence as increase in volume. Increase of sensitiveness likewise may be evidence of increased activity. During pregnancy these statements may be modified, for during this state not infrequently the thyroid gland is easily palpable in the normal state."

Cabot<sup>8</sup> states that the normal thyroid can rarely be felt.

Boothby recommends the following procedure in examining the thyroid: "To palpate the thyroid, grasp the right lobe with the left hand, thumb in front and fingers sinking in behind the posterior border of the sterno-cleido mastoid muscle. By this method, the anterior-posterior diameter can be quite accurately estimated

and by moving the hand up and down, the length of the gland can be determined. If an adenoma is present, it may frequently be sufficiently elevated out of the thoracic strait by instructing the patient to swallow so that the thumb and fingers can be slipped in beneath the tumor. The examination is facilitated by pressure of the other hand on the opposite side, pushing the gland and trachea toward the side being palpated.

In making request for authority to conduct the survey, it was stated that examination would be made only on written consent of the parent or guardian. Consequently, provision was made for the signature whereby the parent gave consent. A record card of very simply type was used. This card was perforated, the one part containing an explanation to the parents of the object of the survey and requesting permission for the examination. It also had as a part, a blank report which could be filled in by the nurse, detached from the record card and given to the pupil to be taken home. Two colors were used, blue and white, which made the tabulating by sexes much more simple.

Cards were distributed to the schools at least twenty-four hours previous to the time scheduled for the examination. Teachers distributed the cards and requested their pupils to bring them back to school at the next period. In case parents were unwilling or objected, the children were not examined. If the cards were not signed, examinations were not made unless the parent had notified the teacher that an examination would be permitted.

Examinations were made without any marked interruption of the school routine. The examining physician usually was placed at the rear of the room where the light was most satisfactory. The children with their cards in hand came up to the examining physician. The physician made the examination and the record was made by the nurse. The nurse also filled in "Notification of Parent," detached same from the record card and handed to the pupil to take home.

It was the custom to view the side of the neck in good light, as well as the front. This would show the enlargement in many of them. However, before making the final decision, palpation was resorted to, a gentle up and down movement of the finger in the location of the isthmus, which method would disclose thickening of the isthmus if it was sufficient to be marked as an enlargement. The student being examined was

asked to swallow and by this method, the isthmus was usually easily palpated, if it was enlarged.

Twenty-eight schools were included in the survey, with a total enrollment of 10,657. 7,051 students, or 66.1% were examined. At the time of the survey there was an epidemic of mumps in the city and many of the students were quarantined. If this condition had not prevailed there would undoubtedly have been a much higher percentage of examinations.

Chart I shows graphically the number of each sex examined and number of enlargements found by ages. 3,345 were boys and 3,706 girls. 30.9% of the boys and 49.7% of the girls showed thyroid enlargement. Enlargement of the thyroid gland was found in 884 white boys and 152 colored boys; 29.5% and 43.3%, respectively. 1,585 of the white girls, or 47.8%, and 259, or 65.7% of the colored girls showed some degree of enlargement of the gland.

TABLE I

Number and Percentage of Each Grade of Thyroid Enlargement Found in 7051 Grade and High School Students in Topeka.

MALE												
AGE	WHITE					COLORED						
	1	2	3	4	5	6	1	2	3	4	5	6
5	19											
6	51	4					9	5	2			
7	66	16					5	9	1			
8	74	10	2				14	4	1	1		
9	60	13	1				12	2				
10	84	13	2				14	2	1			
11	78	18	2				11	4	1			
12	72	23	1				7	5				
13	63	24	4				4	10				
14	47	18	3	1			8	4	1			
15	37	11	2				7	2				
16	28	6	2				2	2				
17	10	3	2				1					
18	7	2										
19	1	1										
20	1	1					1					
21 & Over	1											
TOTAL	699	163	21	1			95	49	7	1		
Percent	23.6	5.4	0.7				27.1	14.0	2.0			

FEMALE												
AGE	WHITE					COLORED						
	1	2	3	4	5	6	1	2	3	4	5	6
5	17	3	1				1					
6	59	15	1				13	5				
7	71	14	1				9	10	1			
8	102	24	2				13	7	2			
9	93	27	6			1	20	5	1			
10	99	41	6				8	12	1			
11	96	44	12				13	3	3			
12	98	50	23		1		18	6	5			
13	99	63	18	1		1	13	15	8	1		1
14	88	51	23	2			12	11	1		1	
15	78	41	11	2			8	7	1	1		1
16	41	40	10			2	3	4	2			
17	39	17	8	2			3	1	2	1		
18	16	15				2	2		1			
19	2	2	1				1		2			
20	2					1						
TOTAL	1000	447	128	7	1	7	137	86	30	3	1	2
Percent	30.1	13.5	3.6				34.7	21.8	7.6			

Table I shows the number and percentage of each degree of enlargement found—by age—in both boys and girls. It will be seen by further reference to Chart I that among the girls there was a gradual increase up to the age of thirteen years and then a drop. Among the boys there was a gradual increase (except at the age of nine years) to ten and then a decrease.

The number of very slight enlargements

is shown graphically in Chart II. Among the boys, the greatest number of very slight enlargements was found at the age of ten years. Among the girls, at the age of twelve years.

The number of slight enlargements is shown graphically in Chart III. The greatest number of slight enlargements was found at the age of thirteen years in each sex. Enlargements of this degree among girls, greatly outnumbered those found in the boys.

Moderate enlargements. Very few enlargements of this degree were noted prior to the age of 9 years in the boys and twelve years in the girls; the greatest number occurred at the age of twelve years among the girls.

Marked and very marked enlargements: So few enlargements were found that no attempt was made to show them graphically.

Adenomas: Nine adenomas were discovered, all of them occurring in females, seven in white girls and two in colored girls.

Exophthalmic goitre: No cases of exophthalmic goiter were diagnosed. One suspected case was referred to the family physician.

Relative frequency: Kimball<sup>9</sup> in his work in the schools at Akron, Ohio, concluded that endemic goiter was at least six times more frequent in girls than in boys. The proportion in the Topeka survey was approximately five girls to three boys.

There was apparently no relation between the birthplace and the presence of an enlarged thyroid. Comparatively few of the children had not lived in Topeka, for at least



one year. This condition, however, did not apply to the colored children. During the past two years, numbers of colored families moved to Topeka from Southern states. One of the colored schools which had the lowest percentage of enlargements among the males, also showed the least number whose birthplaces were in Southern states.

The survey was undertaken in an endeavor to discover the extent to which thyroid enlargement prevailed among Topeka school children. Since goiter is a preventable disease, this effort truly came within the realm of preventive medicine. The department did not attempt to treat the enlargements when found and parents were requested to consult their family physicians in case enlargement was found.

Our conclusion was that thyroid enlargement existed among Topeka school children in a much higher percentage than was anticipated.

Iodized salt was recommended as a preventive, but not for treatment. As previously stated, it was requested that the family physician be consulted where thyroid enlargement was reported.

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### A Case of Diabetes Mellitus With Marked Lipemia

HOWARD E. MARCHBANKS, A.B., M.D.,  
Pittsburg, Kansas.

Some fat is normally found in human blood and Macloed gives in his table on Blood Lipoids the following: The amount of fat by Bloor's method in whole blood for a normal individual is .59 per-cent and in the plasma .62 per cent. In mild diabetes it is .83 per cent in whole blood and .90 per cent in plasma. In severe diabetes it is 1.41 per cent in whole blood and 1.8 per cent in plasma. The more severe the diabetes the higher the per cent of fat in the blood. Here it is necessary to decide what is meant by severe diabetes. There is no way to decide how much pancreas is left

until after days or weeks of treatment. If it is learned that the patient's carbohydrate tolerance is extremely low we conclude that the patient is a severe diabetic or perhaps a total diabetic and yet the proper change in his diet might increase his tolerance and the so called total diabetic will have to be classed a little higher up on the scale. Roughly speaking the patient with a low tolerance after careful dieting is classed as severe. The case which we will report is classed as severe because of his extreme lipemia before much work has been done. He may prove to be less severe than we think.

Those who are treating this most interesting disease at the present time are finding many cases that on first admittance seem to be total diabetics but after careful study find a clue to the cause of the lowered tolerance and eventually are able to bring it up to a livable amount.

The case which I wish to report had the most marked lipemia I have ever seen. It has not, however, been a difficult one to handle yet it is one that demonstrates the great value of diet in the treatment of these severe diabetics in the first decade. It also shows the value of careful observation and the great necessity for having these little people come into the hospital for their preliminary schooling. It also shows that sugar being present in the urine is not alone reason enough to reduce one's carbohydrate intake.

This patient is a small boy 6 years old, who was referred to me by one of our local physicians on March 16th, 1925. His chief complaint was weakness, constipation, thirst and hunger. The last two symptoms were not as marked as they had been but the weakness was greater each day (so his mother told us). No nocturia of late. His mother first noticed in October, 1924, that he had an enormous appetite for both food and water. He drank water frequently and at school would have to drink during school time. He would come home from school with his clothes wet and would also wet the bed. These habits were all new to him for he had not wet the bed before since he was a baby. He had been eating a great lot of honey at school. His grandmother who had several hives of bees lived next door to the school-house and he would go over for a big piece of honey in the comb every time he got a chance which was four or five times a day.

Sugar was first found in his urine on his birthday, November 17th, 1924, when his

mother took him to the doctor for his bed wetting and for loss of weight which seemed quite marked.

The boy had been quite well as a small child. Had mumps two summers ago and light attack of measles but no scarlet fever or other infectious diseases. The Doctor made a diagnosis of diabetes mellitus and taught the mother how to test for sugar and gave her a diet of eggs, meat, green vegetables, butter, milk, oranges and casein bread. He, however, did not tell her how much of each food to give but let her figure that out for herself after she would test the urine. He had her cut down on

six years old weighing 44 pounds; height, 50 inches. Fairly well nourished youngster but his mother states his previous weight was 55 pounds. His hair and skin were dry and his cheeks were flushed as if he had fever or was suffering from some infection. His eyes reacted normally; several abscesses at the roots of his teeth; his tonsils were not bad. The rest of the physical examination was negative except he needs circumcision quite badly.

The laboratory findings are perhaps the most interesting part of the case unless it be the history.

The urine showed 4 per cent sugar, a large amount of diacetic acid and acetone. Due to change of help on the floor the twenty-four hour quantity was not obtained. The blood which was taken on entrance had a rather gray, milky appearance and when allowed to stand for a short while the plasma looked like pure cream. One not acquainted with lipemia would have been sure that some one had added cream to the blood for it was a rich cream color. The blood sugar was 286 mg. per 100 cc of blood and the  $\text{CO}_2$  was 10.7 vol. per cent. We gave him 100 grams of orange and 150 grams 5% vegetables and 120 cc clear broth at 5:30 p. m. He had had a cleansing enema. We gave him 10 units of insulin and 100 grams more of orange at midnight. The nurse and mother were given strict orders to watch for symptoms of a hypoglycemia but no symptoms showed up, much to our surprise. Next morning at 7 a. m., his blood sugar was 33.3 mg. per 100 cc. of blood and his  $\text{CO}_2$  was 25.8 vol. per cent. During the day he received 16 more units of insulin and carbohydrate 93 gm., protein 18.5 and fat 16 grams. Next morning (third day in hospital) his blood sugar was up to 307 mg. but his  $\text{CO}_2$  had reached 41.9 vol. per cent. See table for rest of diet, blood sugar,  $\text{CO}_2$  and insulin dosage.

We gradually noticed the blood clearing of the fat but when he left the hospital on the tenth day, there was still marked evidence of it. He left the hospital on a diet of carb. 43, prot. 35.5, fat 57. His blood sugar was 130 mg. and  $\text{CO}_2$  50.2 vol. per cent. He had taken 3 units of insulin with this diet but was to have no insulin after leaving the hospital until another blood sugar had been had.

His constipation was much better and he had gained two pounds while in the hospital. There was no sugar in the urine after the fifth day.

### CHART SHOWING PROGRESS AND DIET IN CASE OF LIPEMIA

[illegible]

the orange, milk and vegetables if the urine contained sugar until at the time he referred him to me the boy was getting, daily, 3 eggs, good helping of pork sausage, two or three times daily, cheese, casein bread with plenty of butter. He was getting no vegetables, oranges or milk at this time and had not gotten any for over two weeks.

On physical examination we have a boy



The outcome of this very interesting little man can hardly be guessed at but with the co-operation of the mother, it is safe to say that he will do fairly well. No doubt he will have to be on insulin part of the time and perhaps take a small amount daily for a long while.

In conclusion let us summarize the salient features in the early treatment of diabetes mellitus whether the case be a severe one or whether it be a mild one. No matter what the patient's condition is when you see him, if he is a diabetic give him a chance:

1. Do not cut off his carbohydrates at once and send him home.
2. Do not tell him to leave off bread and potatoes and other starchy foods and eat chiefly eggs, meat and a few green vegetables and he will be all right.
3. Do not tell him to leave off a single thing unless it be fat foods until you have him in the hospital or have at least made a 24-hour urine analysis and also determined his fasting blood sugar and  $\text{CO}_2$  combining power.
4. Tell him to take the same food he is getting, providing he is getting a regular diet, until he will come into the hospital or until he gets some place where you will have him under control. If he has been on a greatly reduced diet and you find a large amount of diacetic acid in his urine add a medium sized orange to each meal until you get him in.
5. After he is in the hospital and his blood sugar and  $\text{CO}_2$  has been determined the way is clear, unless he happens to be unconscious. If the  $\text{CO}_2$  is low leave off the fat and restrict the protein and give plenty of carbohydrates in the form of orange juice if he can hold it or glucose per rectum or by hypodermoclysis if his stomach won't take the orange juice. Give other hot liquids by mouth either coffee, clear broth or water.

The ordinary case has been discussed so frequently of late that I will not have time to relate the many accepted plans of treatment from the time the  $\text{CO}_2$  is safe to the time the patient leaves the hospital.

6. After leaving the hospital have the patient report at frequent intervals until you are sure he is going along nicely and then have him get in occasionally for a check up. A diabetic is always a patient and if he can not see you once in a while have him see some one else.

## Annual Address

DR. R. E. STIVISON, St. John

President Stafford County Medical Society,

I am going to be like the minister and select a text for the basis of the few remarks that I shall make on this occasion. And that text is, "Nevertheless, the foundations of God stand sure."

We are all well aware that this a rapid age in which we are living. Institutions, methods and customs are undergoing a rapid evolution. The things which we thought well-established and demonstrated beyond peradventure yesterday are being cast into the discard today. The giant oil-burning locomotive is being replaced by the electric engine. The super dreadnaught which we considered invincible a year ago, in a few months perhaps will be superseded by the bombing plane and the submarine. Educational methods and even religious beliefs are certainly not being spared in the rapid transformation which is in progress.

To the man engaged in the healing art this manifestation of change or general instability of social, moral and educational values, at times presents a perplexing problem. So many new remedies, therapeutic methods and propaganda of various sorts come to the physician's desk that it is little wonder if at times he errs in his judgment in his desire to be a real help to the clientele he is serving. So insidious are the methods of the charlatan that the American Medical Association maintains an analytical laboratory in Chicago for the purpose of analyzing, and disseminating knowledge concerning the multitude of, fake remedies and cures that are being foisted onto the profession and onto the public today. Also, a reform department is maintained for investigating the antecedents and activities of quacks. Not only this, but so many new fads and cults are continually springing up—and it would appear that the more freakish and bizarre their claims, the more likely is the unsuspecting public to be caught thereby. And this leads me incidentally to a criticism of the science teaching in our public schools today. Of what value is the teaching of anatomy and physiology in our grammar and high schools when high school graduates—nay, even high school superintendents themselves lend prestige to the blatant claims of the chiropractor by broadcasting interviews with him in the high school paper and by even questioning what the merits of chiropractic are.

In the midst of all this propaganda, ad-

vertising and claims, we must keep our feet on the ground and our heads on our shoulders. In professional matters we must do as the apostle tells us to do in religious matters—"Prove all things and hold fast to that which is good." Let us keep an open mind toward all things, knowing that the truth is mighty and will prevail. We believe that the laws that we utilize in the practice of medicine are laws of nature. We believe that a given system of causes will always produce the same effects when operating under identical conditions. We are fortunate in living in the age that we do live in. At no time in previous medical history has there been so much classified and dependable knowledge to assist and guide us; or so many scientific instruments of precision for diagnostic and therapeutic usage. In fact, as Tennyson said, we are "the heir of all the ages, in the foremost files of time."

But lest we become selfish and egotistical let us remember that the heritage of the glorious past, the sacrifices and the martyrdoms of the medical fathers—is ours in stewardship only; it is a trust and not an absolute legacy; it is for us to use for the healing and betterment of our fellows, and to transmit undiminished to those who shall come after us. It is to be used like the talents which the Master gave to the three servants. With this wonderful heritage in our hands it behooves us to engage in what I have pleased to call "legitimate advertising." The lay public must be made to know, through reputable and ethical and responsible channels, what the regular practice of medicine is. It must be informed through reliable sources the difference between the physician and the quack cultist. We can not blame altogether the layman for believing the fraudulent claims of the chiropractor, the naprapath, the physical culture exponent, etc., when we have been sitting back and, under the guise of medical ethics, fearing to tell him the truth and the facts, for fear that we will be branded as advertisers. This is certainly a work for county and state organizations to engage in. I believe that we are fully justified in putting before the public the facts in every way that we can, such as conducting group educational campaigns, by holding meetings open to the public and giving educational programs which the laity can understand; by speaking before clubs and school bodies—in fact, informing the public in every way that we can that there has been no medical or sanitary progress, no

great inventions or discoveries of diagnostic or therapeutic value, except that which has been done by the regular physician or his trained assistants. Let us make and adopt a constructive program for our society in this county.

Finally, let us move forward, bravely, hopefully, and charitably; using everything of proven value in our treatment of the sick; knowing that the foundations of God, which are Nature's laws—stand sure and will not be overthrown by every passing fad and fancy that comes along.

—————R—————

## HISTORY OF THE KANSAS MEDICAL SOCIETY

(Continued from Page 410, Vol. XXV)

The thirtieth annual session of the society was held in Representative Hall, Topeka, May 13, 14, and 15, 1896. President R. S. Black was in the chair. Seventy-nine members responded to roll call.

By an unanimous vote the by-laws were amended so as to increase somewhat the duties and responsibilities of the recording secretary.

The Stormont Library committee reported a considerable number of books that had been purchased at a total expense of four hundred forty-two dollars and thirty-five cents, leaving a balance available in the hands of the state-treasurer of one thousand and four hundred thirteen dollars and thirty-five cents.

The board of censors reported favorably on twelve applications for membership and these applicants were admitted. Five honorary members were also elected.

Perhaps the most important event of this meeting of the society was the abandonment of the section meetings which had been given several years trial. An amendment to the by-laws was unanimously adopted providing for section divisions and section secretaries, but also providing that all papers should be read in general session. The sentiment is best expressed in the remarks of Dr. M. B. Ward, who proposed the amendment and which were as follows: "Mr. President, it is very clear from the experience of the Society this year, and for several years past, though not so strikingly as during the present session, that some change in the plan of conducting our proceedings must be made in order to prevent the dissolution of our Society. As it is now, the section which is fortunate to stand at the head of the program is the only one which receives any fair share of attention



from the members. Long before the program is completed, the members who have heard the program of the particular section in which they are particularly interested go away. The Surgical section is coming on, and there is but a handful of members to participate in it, although it is from the length and variety of its program, perhaps the most important of all the sections. It is not fair to the members who have been to the pains of preparing papers to come here and have no opportunity to read them.

"For the good of the Society, in justice to those who prepare papers, we ought to return to our old plan of having a miscellaneous program, and have all business done, and papers read in general session with the President in the chair. By those means we shall aggregate our papers on the same general subject, secure variety, and discourage the practice which now prevails among members of going away just as soon as the work of their particular section is completed. We shall have a great deal of time, too; under the present plan the work of the sections is frequently broken into and delayed by general business, which is always in order, and always heard. With our miscellaneous program we can enter upon it, and proceed in an orderly and expeditious way to the end, and no one will want to go away until it is finished because there may be a paper at the end which he desires to hear."

The following officers were elected for the ensuing year: F. M. Daily, Beloit, President; H. Z. Gill, and Melvin Collins, Vice-Presidents; G. A. Wall, Recording Secretary; W. E. McVey, Corresponding Secretary; Maggie L. McCrea, Member Judicial Council.

The thirty-first annual meeting was held in Topeka, May 12, 13, and 14, 1897. The President, Dr. F. M. Daily, not in attendance, Dr. H. Z. Gill, First Vice-President, presided at the meeting. Sixteen applicants were admitted to membership.

The only business of unusual nature was the adoption of the following resolution: "Resolved, That the Kansas State Medical Society favors a joint session of the Eclectic, Homeopathic and Regular Medical Societies, to further the interests of the medical profession of the State of Kansas, and that a committee of five be appointed by the chair to confer with the committees appointed by the Eclectic and Homeopathic State Medical Societies, and to arrange a time of meeting, and program for the same; and further that we may meet in a joint ses-

sion for the discussion of legislation and transportation matters."

The following officers were elected: C. A. McGuire, Topeka, President; J. W. Felty, and G. P. Marner, Vice-Presidents; W. E. McVey, Recording Secretary; W. F. Sawhill, Corresponding Secretary; L. Reynolds, Treasurer; Maggie L. McCrea, Member Judicial Council.

The thirty-second annual meeting was held in Topeka, May 5, and 6, 1898. C. A. McGuire, President, was in the chair.

There was considerable discussion over a resolution to approve the joint meeting with the Homeopaths and Eclectics, but the resolution was finally adopted and the committee was continued for another year.

The nominating committee recommended that the constitution be amended so that the meeting place should be selected each year.

On motion a committee on legislation was appointed to confer with similar committees from the Homeopathic and Eclectic Societies on the matter of securing a medical practice act through the legislature.

The following officers were elected: J. A. Lane, Leavenworth, President; Melvin Collins and S. V. Fairchild, Vice-Presidents; J. W. Porter, Corresponding Secretary; L. Reynolds, Treasurer; M. P. Sexton, Member Judicial Council.

The thirty-third annual meeting was held in Topeka, May 3, 4 and 5, 1899. On Wednesday at 8 p. m., a joint meeting with the Homeopath and Eclectic societies was held. Governor Stanley addressed the joint meeting and requested that a list of eligible men from each society be submitted to him, and from these lists he would appoint members of the Board of Health.

On Thursday morning the Society convened in regular session. Twenty-one applications for membership were approved by the board of censors and the applicants were admitted.

A committee of five was appointed to select names to be submitted to the Governor for appointment on the Board of Health. The committee selected six names which were approved by a vote of the Society\*.

Communications were read from the

Foot Note.\* When, just before the report of the committee was read, it was learned that a member of the Society whose name had not been selected had been promised an appointment on the Board of Health, in fact had the appointment in his pocket, his name was added to the list. This does not appear in the records, but is nevertheless true. A few years later it was discovered that these appointments were made long before the date of the meeting, the appointee being requested to secure the endorsement of the Society, so the farce of making up these lists was abandoned.

Homeopathic and Eclectic societies favoring the holding of another joint meeting of the three societies. A resolution to concur in the action of the other societies, after much discussion, was voted down.

The following officers were elected: Charles Gardiner, Emporia, President; R. J. Morton and C. J. Milton, Vice-Presidents; W. E. McVey, Recording Secretary; J. W. May, Corresponding Secretary; L. H. Munn, Treasurer; W. R. Priest, Member Judicial Council.

The thirty-fourth annual meeting was held in Topeka, May 2, 3 and 4, 1900. President Gardiner called the meeting to order.

Twenty-one applications for membership were approved by the censors and the applicants elected to membership.

On motion a committee was appointed to memorialize the legislature to take steps leading to the establishment of a state sanitarium for consumptives.

The judicial council recommended a number of amendments to the constitution and by-laws, but after some discussion the report was tabled. Later in the meeting that part of the report referring to the place of meeting was recalled and that section was amended to read: "One regular meeting shall be held each year at a place to be chosen by a majority of those members present. \* \* \*"

A committee was appointed to cooperate with a similar committee from the Homeopathic and Eclectic societies in an endeavor to secure better state laws dealing with the adulteration of foods and medicines.

The following officers were elected: J. W. Porter, Pittsburg, President; J. P. Lewis, and C. P. Shaffer, Vice-Presidents; J. W. May, Corresponding Secretary; L. H. Munn, Treasurer; Geo. Boyle, Member Judicial Council.

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## UNIVERSITY OF KANSAS CLINICS

### Clinic of Joseph B. Cowherd,

Assistant Prof. Department of Pediatrics

#### ENLARGED THYMUS IN THE NEWBORN

Sudden death in the newborn and very young infants occurs, still quite frequently, the actual cause of which in many cases is not properly diagnosed. Many of these cases present symptoms which are now known to be typical of thymic disturbance. More and more cases with this symptom group, are being reported in medical literature. Every physician doing obstetrical work should familiarize himself with these symptoms, for the thymus

is now recognized as probably the most frequent cause of sudden death in the newborn. I do not believe that this subject can be stressed too much; and it is with that purpose in mind that I wish to present the following cases.

*Case No. 1.* Baby F. one day old, prolonged normal labor. At birth the baby required some extra attention to establish respiration perfectly, after which it seemed to be entirely normal; heart normal, lungs showed no atelectasis. Until three o'clock in the afternoon—having been born at 8 a. m.—the baby seemed about normal, when she suddenly had a hard crying spell and

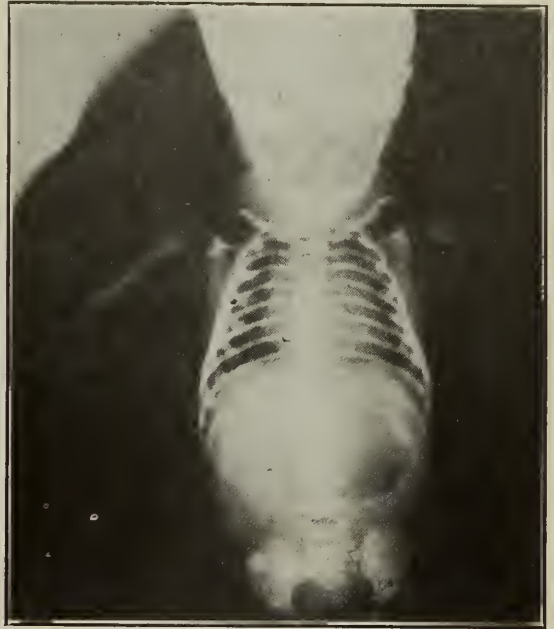


Plate I. X-ray picture of Case I showing a huge Thymus Shadow. Death took place on first day. The whole upper chest is filled by the gland.

turned intensely blue with extremely difficult breathing. Atropin was administered; the child's color became better and she rested quietly until 7:00 p. m. when another similar attack occurred, much more intense. Oxygen and artificial respiration were given without results, the child dying at 10:00 p. m. An x-ray picture was taken and an extremely enlarged thymus gland is shown in Plate 1. The illness was so short that no x-ray treatment was used. An autopsy could not be obtained.

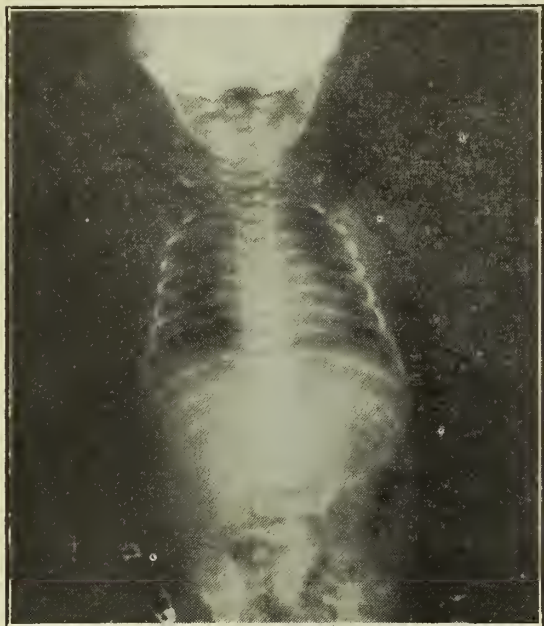
*Case No. 2* Baby S.—born Jan. 4, 1922. There was nothing abnormal in the mother's prenatal history or care. The birth of the child was an easy forceps delivery. Examination showed a normal



baby in every way, perfectly formed, color good, weight said to be 9 pounds and was unusually well developed. Baby was breast fed with a plentiful supply. On January 21st, fifteen days later, the baby developed several sudden spells of cyanosis characterized by inhibition of respiration. Attacks varied from one to fifteen minutes in duration, being preceded by a guttural

end of a week. Treatments were given January 30th and 31st, February 1st, 3rd, and 4th, only an occasional slight disturbance being noted. The baby made a complete recovery and an x-ray taken about ten months later shows that the thymus had practically disappeared. Plate No. 2B.

*Case No. 3.* Baby F. ——— born April 25, 1925, weight 8 lbs. 12 oz., perfectly normal baby in every respect. Was a normal delivery. Breast milk was plentiful. On May the 5th, ten days later the baby was found deeply cyanosed and practically unconscious. Hot mustard baths, artificial respiration, and oxygen were resorted to. The baby came out of this spell after about 30 minutes. Much mucus was wiped out of the back of the throat. The baby's color was not good nor did it nurse well during the next twelve hours. The following day the attacks became more frequent averaging 3 or 4 light ones and as many hard ones. Between attacks the baby's color



Pltae IIA. The Thymic shadow is well defined, showing enlargement to the left as well as the right. (Case II.)

sound followed immediately by complete relaxation. Between attacks the baby seemed perfectly well, good color, nursed and gained more than an ounce each day. There were no digestive symptoms. Camphor, whiskey and mustard baths were used which seemed to help. At this time nothing abnormal could be found in the heart. The following day the attacks became much more severe and lasted longer. The same day I was called in consultation with Dr. Candler of Bonner Springs. The diagnosis of thymic attacks was made. An x-ray picture showed a markedly enlarged thymus, Plate No. 2A. X-ray treatment was started, giving from one to two treatments a day, using from 25 to 40 milliamperes for 10 minute exposures. After the second x-ray treatment the attacks became lighter and less severe, the unconscious stage not being reached. On January 25th the baby had only one light choking at nursing time, so was allowed to leave the hospital. They were requested to report at the



Plate IIB. Picture of Case II, taken 10 months later, shows the gland to have disappeared.

was much better than the preceding day, probably because the baby was being watched. A diagnosis of enlarged thymus was made which is shown in Plate No. 3A. These attacks started with a shaking of the arms, squirming followed by choking, cyanosis, and complete loss of consciousness. It looked as if each attack would be the last. X-ray treatment was begun immediately, two exposures on this date. The

following day the attacks were less often and lighter. The x-ray treatment being continued, on the third day there were only one or two light spells and one hard one, while by the 4th day the attacks practically ceased. The baby nursed well, color was good and seemed as well as any normal baby. During all of this time there was no temperature, nor was there any thing abnormal found in heart or lungs. The case was progressing so well that x-ray treatments were stopped for two days. Immediately the whole picture changed back again to the one described above, whereupon x-ray treatment was resumed with the same good results. The baby passed through these cycles of recovery with treatment, and relapsed when the treatment was stopped. On May 30th the child seemed perfectly well weighing about its birth weight, and was allowed to leave the hospital where it was born. It would probably be fair to say that this baby had from 80 to 100 attacks during this time. At no time were there any twitchings of face or convulsive

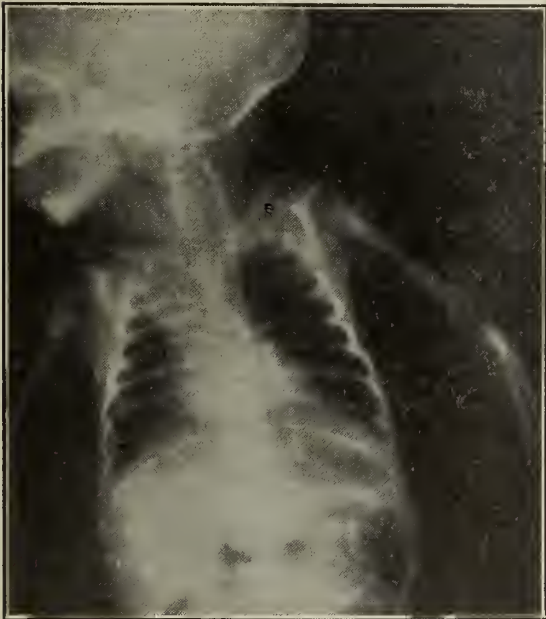


Plate IIIA. The enlargement is mostly to the right (Case III).

seizures so characteristic of brain injury or hemorrhage. After going home the baby had a few more spells and received some seven or eight more x-ray treatments, the severity of the attacks gradually decreasing. There were, in all, about 39 x-ray exposures given. The fluoroscopic examinations showed a gradual diminution in the intensity of the shadow. Several weeks

later patient died of a chest complication—rales, temperature, and rapid breathing—which was undoubtedly pneumonia. Pathological report given below:

*Gross Pathology.* Material consists of portion of thymus measuring .4 by 2.7 by 2.8 cm. and weighing 2.4 grams. It is ir-



Plate IIIB. A later picture of Case III after 10 days of vigorous x-ray treatment. The gland is much less dense.

regular. The thymic tissue is somewhat encapsulated by fibrous tissue and there is a good deal of fibrosis throughout. The thymic tissue varies in diameter greatly in different parts of the section. Cut section shows lobules of grayish white thymic tissue separated by bands of fibrous tissue. Small hemorrhages are present scattered through the thymic tissue.

*Histological Pathology.* The thymus gland shows unusually distinct lobulation. Scattered throughout the stroma there is an unusual number of diffuse hemorrhages. The thymus gland has the picture of an atrophy. The thymus corpuscles are rather numerous but the thymic cells and lymphoid tissue are distinctly reduced in number. Another very unusual feature is that throughout the stroma there are an unusual number of large but collapsed blood spaces and lymph spaces giving the picture of rather extensive varicose veins. There is some fibrosis in the center of many of the lobules.

*Diagnosis.* Atrophy of the thymus asso-



ciated with extensive congestion, hemorrhages and varicose changes in the blood vessels of the stroma.

These cases were chosen from several of the same nature because they seemed best to typify certain features of this disease.

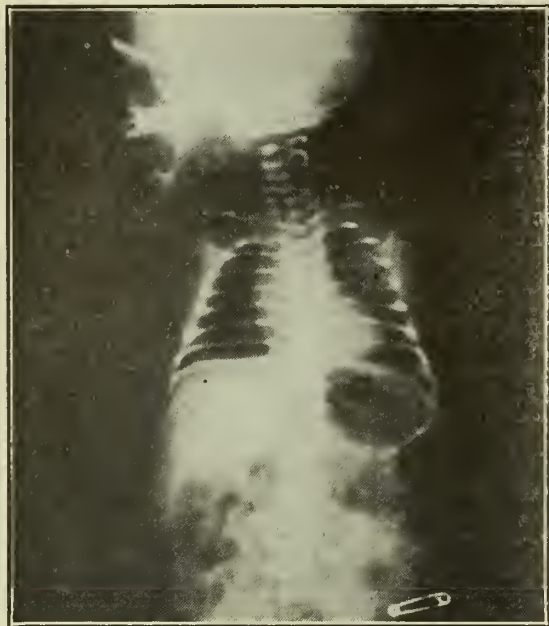


Plate IV. A moderately enlarged thymus in a baby 10 days old. A normal baby with no thymic symptoms. Not all large glands produce symptoms.

The first case presented a huge thymus with suffocating symptoms and sudden death. The second case presents also a thymus, not so large, but producing marked symptoms with many attacks ending in perfect recovery after x-ray treatment, as shown in the second plate—number 2A. In the third case the symptoms were identical with the other cases, except being much more persistent and much more resistant to x-ray treatment. The symptoms finally disappeared after many x-ray treatments.

#### DISCUSSION

Most cases of true thymic disturbance in the newborn present symptoms which may be classified under three general heads:

1. Attacks of suffocation with instant death.
2. Intermittent paroxysms of cyanosis.
3. Dyspnea with some stridor, being followed by general weakness and unconsciousness.

The diagnosis of this condition in infants is easy and sure while in older children pre-

senting symptoms of status lymphaticus with sudden death, the diagnosis is not so certain. Many cases of unexplained death in older children are thought to be enlarged thymus because autopsy shows nothing else wrong, when in reality some of these would, we believe, be found to be meningeal infections, if proper cultures were taken from the brain in all cases. This latter type of thymic disturbance, however, is not considered here. The thymus is often upset by infections, and shock from injuries.

Such conditions in the newborn as brain injury and congenital heart lesion must not be confounded with thymic disturbance, the former being characterized by shrill cries, twitching of the face and trunk, with or without general convulsions and general muscular spasticity, none of these being present in the thymus cases. In most cases of congenital heart lesion, the cyanosis is persistent and the color is never as good as it is in the thymic cases between attacks. And again, a heart murmur of some description is nearly always heard in the congenital heart cases.

The newly born baby with an enlarged

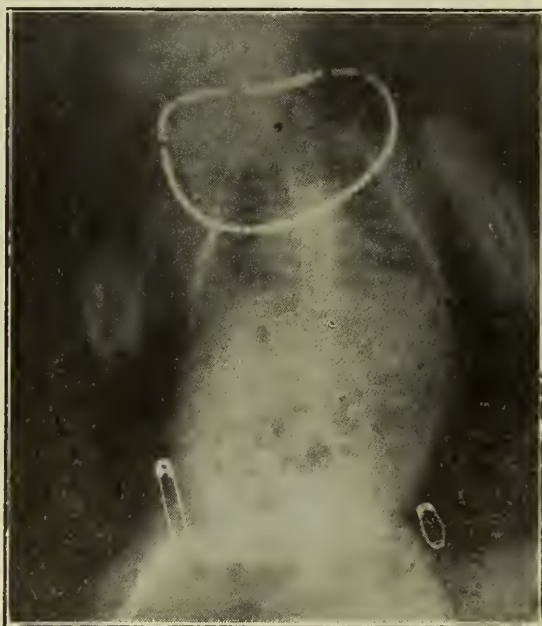


Plate V. No enlargement can be made out—normal baby 8 days old.

thymus usually appears to be above normal in development, especially well nourished, and sometimes seem to have a slightly edematous appearance to the skin. This appearance of these babies will practically rule out the diagnosis of atelectasis and pre-



maturity to which sudden death in the newly born is so frequently charged.

The thymus gland is usually fully developed at birth, but can increase in size up to the third year of age, after which time it gradually atrophies, usually disappearing at about the age of fifteen. Not all cases of actually enlarged thymus produce symptoms. A good proportion, 30 to 40 per cent showing characteristic x-ray shadows produce no symptoms and have been shown to be practically absorbed by the third year. In 119 autopsies reported by Schlass and Liss, 50 showed large shadows, 34 small shadows, and 35 none at all. The average weight of a normal thymus is from 12 to 15 grams, and when larger may be looked upon as a just cause of symptoms, when present in any individual case.

Several anatomical peculiarities may be mentioned because of their bearing upon the theory of causation of symptoms in these cases. The cervical region of the gland is in close relation to the trachea, and inferior laryngeal nerve posteriorly, while the thoracic portion rests directly on the right auricle and vena cava. Microscopically the thymus consists of two kinds of cells—lymphatic, which predominate, and epithelial cells which are arranged in concentric groups called Hassall's corpuscles. These latter, you will remember, are supposed to be the cells of internal secretion. But as yet no definite internal secretion has been demonstrated. Many experiments on animals show general weakness after removal of the thymus. Edward Parks<sup>2</sup> states that these symptoms are due to confinement and that thymic secretion is not necessary to life.

The actual cause of death from enlarged thymus is still a matter of speculation, the following theories being given some credence.

1. Pressure on trachea and large vessels of the neck.
2. Some inhibitory action exerted on heart.
3. Some toxin generated in the gland.

The first two would well account for the symptoms in the newly born, while the third would account for symptoms in older children, caused by a thymus disturbed by infection, there being no temperature in these cases in the newly born, while in older children who die suddenly, there is usually quite a temperature. All newly born infants with symptoms similar to these should certainly direct one's attention to the diagnosis of an enlarged thymus.

An enlargement of the thymus may be

percussed when the gland is extremely large, with dullness extending above the heart, more to the right than to the left, extending up toward the neck. This, however, is not usually demonstrable even on light percussion.

The x-ray is most valuable in the diagnosis of this condition. Clear distinct pictures usually show a large, fairly dense shadow overlying the base of the heart and merging into the heart itself. The typical shadow is usually more marked to the right than to the left. Pictures should be taken, if possible, at the end of both inspiration and expiration, to prove that the shadow is constant. A second picture should always be taken. Cases presenting typical symptoms with positive x-ray findings may be diagnosed enlarged thymus because the cases that have been autopsied all prove it.

The fluoroscope gives the same corroborative evidence as the x-ray. The gland can be seen to become more dense when the child is crying or fussing. The clear outline must not disappear at any time and must be free from pulsations, else it may be confused with a distended right auricle.

The treatment consists of repeated exposures to diffuse x-rays. These are usually given every day or every second day unless the case be very urgent when they may have two exposures a day. Usually from 3 to 6 treatments are sufficient. If the symptoms persist, as in Case No. 3, the gland should be literally destroyed by the x-ray. Formally surgical removal was resorted to, but the mortality was so high it was discontinued. The x-ray is now considered to be curative and perfectly safe.

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#### Pyocyaneus Meningitis After Lumbar Puncture

Isidore I. Levy, Baltimore and Armand E. Cohen, Louisville, Ky. (*Journal A. M. A.*, Dec. 19, 1925), assert that the case presented by them is the first reported case of *Bacillus pyocyaneus* meningitis following lumbar puncture, not preceded by or associated with other pyogenic infection and in which the patient apparently made a complete recovery. Excessive headaches were relieved by spinal drainage, and the authors think that this procedure, together with the intraspinal injection of inactivated autogenous blood serum, has a favorable influence on the course of the disease.

# THE JOURNAL

*of The*

## Kansas Medical Society

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W. E. McVEY, M.D. - - Editor

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### WHAT KIND OF LEGISLATION?

Since a year will probably elapse before the meeting of the next legislature, no harm will be done in offering a few suggestions to those who may feel an urge to experiment in the pastime of lawmaking. Something was said in the last number of the Journal concerning the conditions under which the medical practice act was formulated and passed.

Due consideration of the influences that must be encountered in any attempt at legislation for the medical profession will convince one that in whatever plans may be devised for future legislative efforts the medical profession should be definitely eliminated as beneficiaries.

While it may be just, and it may be worth while, for the physicians to ask for such special privileges as laymen will readily admit they are entitled to, it is hardly worth while to ask for exclusive privileges if, from a layman's point of view, others may also be entitled to those privileges.

We have paraded our altruism before the public with considerable persistence, but it would be a convincing ceremony for the medical profession to line up in unanimity for a law providing a single standard of requirements for all who practice

the healing art, such a law to be administered by a commissioner appointed by the governor.

There is probably room for improvement in other laws in which the medical profession is directly or indirectly interested.

### WHY IS A BOARD OF HEALTH?

For instance one may ask, why is a board of health? Is it one of the antiquities allowed to exist out of respect to its age and historical interest? Not our board of health, for as it is now composed it would be a credit to any state, nor any particular board of health; not the duties or the functions of a board of health, for they have long been recognized as of inestimable importance to the public and its welfare. But why a board? Why not a commissioner of health? Can a community or can the people of a state be better served by nine men, meeting occasionally than one man with the cooperation of a number of specially trained department heads continually on the job? It is easier to understand why a board of health consisting of nine members was created, than to explain why it is perpetuated in the face of modern advances in the methods of government and law administration.

In the first place it was the most popular conception of what a state health department should be. In the second place it was the only kind of health department the Kansas legislature would provide. The records of the Kansas Medical Society show that the medical profession felt its responsibility in the development of a public health department and the society or members of the society made strenuous efforts to secure the passage of a law providing therefor. There were then but three schools of practice but they were intensely antagonistic. Whatever public measure was submitted, requiring the recognition, or the services of medical practitioners, must provide for equal recognition of these three schools or it was doomed. There was no compromise which permitted one school any advantage over another.

The law creating the Kansas board of



health was enacted in 1885. It provided that the board should consist of nine physicians—graduates of medicine and reputable practitioners—but at no time should there be a majority of the members of the board who belonged to the same school of practice.

Neither of the three schools would at that time have supported a bill providing for the appointment of a commissioner of health. The Regulars felt that as sponsors of public health legislation they should have a voice in whatever regulations were to be adopted. The Homeopaths and Eclectics recognized the necessity for being represented in all such matters for the protection of their own interests.

Since that law was passed it has usually been customary for the governor to appoint four Regulars, three Homeopaths and two Eclectics. It has grown more and more difficult, however, for the governor to make the necessary appointments on the board of health in accordance with the requirements of the law. Except for the phrase "and each of whom shall be a graduate of a respectable medical college," it is possible that osteopaths or chiropractors might be appointed to membership on the board.

The board is now technically composed of four Homeopaths, three Regulars and two Eclectics, but actually is composed of nine Regulars, or rather nine non-sectarians, for every one of them is a member of the Kansas Medical Society, and while some of them are graduates of Homeopathic and Eclectic colleges of medicine they do not now belong to those schools of practice.

In a few years it will be practically impossible to find a sufficient number of men to meet, even technically, the requirements for membership on the board of health.

It will soon be necessary to make some changes in the law which will provide for a different composition of the board. Of course the most simple procedure would be to eliminate the clause "but in no case shall the governor appoint a majority of the physicians that shall constitute said board of health from any one school of medical prac-

tice, nor shall said board at any time be composed of persons, a majority of whom shall be of the same school of medical practice." However it must not be forgotten that osteopaths and chiropractors have shown considerable political influence in the past; and it is not at all unlikely that they may demand recognition if any changes in the law are attempted.

Since from their very nature, cults and schools of practice can have no permanency, any law that provides for the recognition of existing schools of practice on the board of health or any other board must sooner or later become obsolete.

When it becomes necessary to amend this law it will be well to consider the advisability of substituting a commissioner of health for the present board of health. Under such a plan the state health department might be composed of a commissioner of health; bureau of sanitary engineering; bureau of vital statistics; bureau of epidemiology and bacteriology; bureau of foods, drugs, hotels; bureau of tuberculosis; bureau of venereal diseases; bureau of public health nursing; bureau of maternity and child health; bureau of registration and examination; each with its director.

It should not be regarded as criticism of our board of health or the work it has accomplished, to say that a board of health cannot serve the people to better advantage than they would be served by a health department constructed on the plan outlined above. There are no duties assigned by law to a board of health that cannot be better performed by a commissioner of health with the advice and assistance of the specially trained directors of the various bureaus.

#### WHY A BOARD OF EXAMINERS?

In a former number of the Journal an attempt was made to point out some features of special legislation in the medical practice act which made it possible for other special laws to be enacted and other special examining boards to be created. It was suggested then that a law providing a single standard of qualifications for all



who proposed to practice the art of healing, would appeal to the members of the legislature if its intentions and its scope were made known to them, and practitioners of all kinds be eliminated from any prominent part in the administration of the law.

The plan outlined above for the construction of a health department included a bureau of medical registration and examination which will replace the three boards of examiners we now have. It would be the duty of the director of this bureau to oversee the registration of all practitioners, to examine and certify the credentials of all applicants for license and with the commissioner of health appoint such men to examine applicants as would most efficiently serve the purpose—men perhaps from the state's schools or its hospitals and possibly from the ranks of the profession, but not for political reasons.

If changes in these laws are contemplated, and some modifications will certainly soon be required, why not modernize the whole thing? Why not adopt some of the progressive ideas that are proving of greatest worth in other departments of government?

#### "A BUILDER OF MEN" AT THE UNIVERSITY OF KANSAS

"Some are born great, some achieve greatness and some have greatness thrust upon them."

No matter how one's greatness is acquired, not everyone has the inclination or the ability to capitalize it. Recently one who gained renown as a football star has apparently succeeded in doing so, and while professionalism is generally regarded as out of harmony with the traditional spirit of college athletics, many, outside of college at any rate, will consider his success a merited reward for the skill and energy displayed.

It is true that among the eminent lawyers, doctors, preachers, and financiers, there are some who in their college days won applause for their prowess in athletics, but it does not follow that a stellar athlete must become famous in whatever occupa-

tion he may choose. That such a misconception of facts does prevail might be indicated by the recent attempt of the director of athletics in the University of Kansas to capitalize what, in his own estimation at least, is a reputation of considerable magnitude. But it was in athletics that he made the reputation he is attempting to capitalize as an osteopath.

One who is uninitiated in the mysteries of this cult has no right to say that it is not closely associated with athletics. In any event his press agent seems to have found some points of contact in the pamphlet that has been published under the title, "A Builder of Men." And from the blatant chapter headings, such as, "An Unheralded Hero," "Helped the M. U. Players Too," "Treated the University of Illinois Stars," "An Envious Record," "The Miracle Man," and "Osteopathy for All Ailments," one might wonder if he were attempting to use his position at the university to promote his own interests as an osteopath.

One, less lenient toward the frailties of mankind, might find in the following suggestion of a purpose other than that implied: "Moreover, since I was appointed head of the consolidated physical education program at the University, I have introduced a plan whereby each student will participate in some form of sport, not necessarily with the idea of making any formal team, but merely for the exercise and wholesome recreation it affords. That means, of course, that I now have so many more to look after."

However, we are not so much concerned with this man's reputation as an athlete or his success as an osteopath as with the attitude of the University of Kansas toward such abuses of confidence. The same principle would be involved should the dean of the department of pharmacy lend his name and the reputation he had gained by his position in the University, to the exploitation of some patent medicine in the manufacture of which he was concerned.

Such things may be tolerated in the political jobs distributed among the friends

of the party in power after each election, but the state's educational institutions are presumably sacred ground which may not be invaded by political graft.

The University of Kansas is trying to develop a great medical school where men are taught all that can be learned about the human body, its structure, its functions and dysfunctions, its accidents, deformities and malformations, the causes and processes of all its pathologic conditions and every available means for their prevention and cure. In its medical school it has a large corps of highly trained men, many of them with national reputations who are devoting a great deal of time and energy in research.

In view of these facts, such quackery as this is intolerable.

### —R— CHIPS

Some people have trouble in putting their thoughts into words; a good many have trouble putting thoughts into their words.

The appendix carries the appendicular artery within its walls in a fair proportion of cases. If the stump is invaginated into the cecum without previous ligation of this vessel, there may ensue a compromising and even fatal bleeding into the colon, says M. G. Seelig, in the October number of the *Surgical Clinics*. He prefers the simple ligation and cauterization method.

Bonsfield in a discussion on the treatment of alcoholism in the *Lancet*, November twenty-eight, after referring to relapses, says that a frequent cause of the beginning of a bout of drinking is undischarged sexual tension. If for any reason this is raised and cannot be discharged, an individual who has been prone to alcoholism tends naturally to the old habit-path which has been formed in order to avoid the tension, although he may not be fully aware that the tension is present.

Quack doctors have also invaded Japan. An investigation showed eighty-eight alleged doctors practicing in Tokyo without licenses. It seems that the laws provide only a small fine for these violations and the intruders who charge exorbitant fees very willingly pay these fines, as they are assessed, and continue their violations of the law.

Contrary to the general belief, one who has

not been registered may practice medicine or surgery in England. The system of examination and registration was created by Parliament in 1859, but while one who practices midwifery, without being enrolled under the "Midwife's Act" is subject to a fine of ten pounds and one who practices dentistry without being registered under the "Dentists Act" is subject to a fine of one hundred pounds, no fine is provided for one who practices medicine or surgery without being registered. One who is not registered, however, may not sign a death certificate.

From the result of some recent examinations the Council on Pharmacy and Chemistry concluded that all of the brands of cinchophen and "Atophan" are equally good for therapeutic purposes. There is considerable difference, however, in the cost. It is stated that while cinchophen can be purchased for from fifty cents to one dollar per ounce, "Atophan" sells for two dollars fifty cents to two dollars seventy-five cents per ounce.

Zinsser claimed that ninety-three per cent of new-born infants gave a negative Schick reaction, if the mother was also negative. It has been shown that the blood in the umbilical cord contains the same amount of antitoxin as the mother's blood. These infants are therefore immune to the same extent as the mother, but the immunity begins to diminish before the end of the first year and at the end of the second year two-thirds of them have no antitoxin in their blood.

As an example of simplified thought expression, read the following: "The therapeutic task depends on the possibility of utilizing the libido which is flowing back into the ego and combining it with the existing sublimations in a manner compatible with reality. The prognosis for intervention depends on whether in the accessible part of the personality germs of interests capable of development are found."

A marked fall in spinal fluid pressure is the cause of the headaches sometimes developing after lumbar puncture, is the conclusion of Alpers, in an article in the December number "The Archives of Neurology and Psychiatry." He says that pituitary extract 1 cc. intramuscularly, is of great benefit in most cases of lumbar puncture headache; and that hypotonic saline



solution 100 cc. of 0.05 per cent is of value in severe and persistent cases.

Sea sponges are coming into favor again, this time as dressings for wounds. They are sterilized with mercuric chloride and kept in seventy per cent alcohol in glass jars. Davis and Frank, in December number of "Archives of Surgery," recommend the use of this dressing because it may be applied under considerable pressure with little danger of pressure slough, congestion in flaps, and grafts is minimized, dead spaces are eliminated, it stays moist long enough to absorb blood and serum and when it dries forms a perfect mold of the surface and immobilizes and splints the area over which it is applied. It does not irritate or macerate the skin even after being in place for weeks.

————— R —————

### MEETING OF BOARD OF TRUSTEES

**Abstract of the Minutes of a Meeting of the Board of Trustees of the American Medical Association, Held at Association Headquarters, Thursday and Friday, November 19 and 20, 1925.**

All members of the Board, including the President, President-Elect and Speaker of the House of Delegates, were present.

#### COOPERATION WITH THE PROHIBITION DIRECTOR AND THE TREASURY DEPARTMENT

Dr. W. H. Mayer, chairman of the committee appointed by the Board of Trustees, at the direction of the House of Delegates, to cooperate with the Commissioner of Internal Revenue and the Secretary of the Treasury in the formulation of regulations under the National Prohibition Act, appeared before the Board. He presented principles formulated by the committee with a view to their incorporation in regulations to be suggested to the Commissioner of Internal Revenue. The principles embodied in the report of the committee dealing with the dispensing of liquors for medical purposes and with the assumed regulation of the practice of medicine by Congress were approved by the Board of Trustees.

#### RESEARCH FELLOWSHIPS

At the November meeting, the Board of Trustees referred to the Committee on Scientific Research a proposal for the establishment of research fellowships. Dr. Ludvig Hektoen, chairman, presented the report of the committee, approving in general the proposed establishment of such fellowships, provided adequate control of

appointments and of the work of the appointees can be maintained. It was pointed out in the report of the committee that many such fellowships have already been established by other organizations. The matter was referred back to the Committee on Scientific Research for further study, and the committee was asked to report at a later meeting of the Board, offering suggestions as to the required machinery for carrying out the project.

#### GENERAL MANAGER'S REPORT

The General Manager of the Association reported to the Board on the business affairs of the Association, the status of its publications, and the work of various departments.

#### HYGEIA

The report of the General Manager showed that the circulation of *Hygeia* had been materially increased during the year, and that the financial position of the magazine is much stronger than ever before. *Hygeia* seems to be gaining favor with the general public, as well as with the medical profession. After full discussion, the Board of Trustees authorized the continuance of the policy and plans under which *Hygeia* has been published during the year, and directed that Dr. Morris Fishbein, Editor of THE JOURNAL, shall also be Managing Editor of *Hygeia*, with Miss Jane Pine as associate editor, and that Drs. John M. Dodson, Arthur J. Cramp and Olin West shall serve as members of the advisory editorial board.

#### ENLARGEMENT OF ABSTRACT DEPARTMENT

The Board considered suggestions offered by the Editor of THE JOURNAL, for the enlargement of the abstract department of the Association, with a view to extending the scope of abstracts now published in the Association's journals and to the possible development of a comprehensive abstract service for individual physicians. Authorization was given for working out plans for the enlargement of the abstract department.

#### REDUCTION OF FEDERAL TAXES

Dr. Charles W. Richardson reported that he and Dr. W. C. Woodward, a committee appointed by the Board of Trustees to appear before the Ways and Means Committee of the House of Representatives had received a very satisfactory hearing, and that that committee would recommend to the House that the Harrison Narcotic tax be reduced from \$3 to \$1.



### MANUAL OF PERIODIC PHYSICAL EXAMINATIONS

The General Manager reported to the Board that the manual on periodic physical examinations, prepared by a special committee, had been issued since the last meeting, and that several constituent state associations have ordered, through the Bureau of Health and Public Instruction, a sufficient number of copies of this manual to supply one to each of their members. The manual is furnished to state associations at cost.

### NEWSPAPER PUBLICITY

Newspaper clippings forwarded to the Secretary of the Association, accompanied with vigorous complaints, were presented to the Board of Trustees. These dealt with statements alleged to have been made in papers presented before medical organizations, which were believed to reflect unfavorably on the medical profession at large. The Board appointed a committee to confer with the officers of the organizations at whose meetings these statements are alleged to have been made, in an endeavor to prevent the publication of similar statements in the future.

### COMMITTEE ON SCIENTIFIC EXHIBIT

Dr. D. Chester Brown, chairman of the committee, presented the report of that committee, in which were discussed plans for the Scientific Exhibit at the Dallas Session.

### PROTECTION OF MEDICAL RESEARCH

A report was presented from Dr. W. B. Cannon, which briefly reviewed the work of the Committee on the Protection of Medical Research since its appointment, and in which he tendered his resignation as chairman of the committee. Dr. Cannon's resignation was accepted by the Board with regret, to take affect in February, and the Secretary was instructed to express to Dr. Cannon the gratitude of the Board of Trustees for the splendid service that he has rendered over a long period of years in directing the work of this important committee.

### REPORT OF SPECIAL COMMITTEE ON NATIONAL HEALTH COUNCIL

The special committee of the Board of Trustees composed of Drs. A. R. Mitchell, Charles W. Richardson and J. H. Walsh, to which was referred a proposal of the National Health Council, seeking active affiliation of the American Medical Association with that council, offered its report. The

committee recommended that the Board of Trustees invite the directors of the National Health Council to submit a definite proposal relative to active affiliation of the American Medical Association with the council "that would insure the American Medical Association a legitimate representation in the directorate of the National Health Council in proportion to the membership and the influence of the American Medical Association in public health affairs." The Board of Trustees approved these recommendations of the committee.

### GORGAS MEMORIAL INSTITUTE OF TROPICAL AND PREVENTIVE MEDICINE, INCORPORATED

A special committee appointed by the Board at its November meeting to consider a proposal submitted to the Board of Trustees by the chairman of the board or directors of the Gorgas Memorial Institute of Tropical and Preventive Medicine, Incorporated, presented its report. The proposal submitted to the Board of Trustees involved the appointment of three officers of the American Medical Association to serve as "related" directors of the Gorgas Memorial Institute of Tropical and Preventive Medicine, Incorporated, and the active affiliation, through such representation, of the American Medical Association with the Gorgas Memorial Institute as now constituted. The report of the committee was adverse to the acceptance of this proposal, and the recommendations of the committee were adopted by the Board of Trustees.

A special committee, composed of Drs. W. D. Haggard, D. Chester Brown, E. H. Cary, J. H. J. Upham and J. H. Walsh, with Drs. E. B. Heckel, chairman of the Board of Trustees, and Dr. Olin West, Secretary and General Manager, as ex-officio members, was appointed to consider and report on proposals similar to those of the National Health Council and the Gorgas Memorial Institute of Tropical and Preventive Medicine, Incorporated, which may be submitted in the future.

After the transaction of a large amount of routine business, the Board of Trustees adjourned until its regular annual meeting on the third Friday of February, 1926.

### KANSAS MEDICAL LABORATORY ASSOCIATION

#### Filtration of Agar in the Autoclave NEVA RITTER

of the Kansas City Consumers' League

To filter agar with the minimum of work is the endeavor of every media maker. The method described here has been success-

fully used in this laboratory in preparing "Standard Methods" agar for milk analysis, but would be equally suitable for any kind of media that could be heated in the autoclave.

The principle of this filtration is the same as that of filling inverted vial fermentation tubes, the medium being drawn through the filter to fill the vacuum incident to the condensation of vapor in the inverted bottles.

The desired filter is tied over the mouths of large bottles which are inverted in the vessel containing the ingredients. Heating is carried on in the autoclave, care being taken to see that all of the air is displaced by steam before the valve is closed, otherwise only a partial vacuum is created and filtration may not be complete. During the cooling the medium is filtered as it is drawn into the bottles.

The procedure in this laboratory is to measure the materials for five liters of agar into a four gallon white enamel water pail, using "Procedure No. 1" from "Standard Methods of Milk Analysis." Filters of absorbent cotton and muslin are tied over the mouths of five quart and one pint milk bottles, which, inverted just fit into the pail. This is placed in the autoclave, which is run in the usual manner for 15 to 30 minutes after 15 pounds of pressure is attained. After cooling, the bottles are found to be full of the filtered agar, which is then titrated, adjusted, bottled, and sterilized.

Agar prepared in this way is clear, there is no loss of water by evaporation in boiling, and the time and trouble of melting on the stove and decanting through a filter is eliminated.

#### REFERENCES:

Standard Methods of Milk Analysis, American Public Health Association, Fourth Edition, 1923, p. 7.

Kendrick, P. L.: Agar Filtration Method, American Journal of Public Health, Vol. XIV, 1924, p. 1077.

#### PERSONALS

Dr. J. T. Scott has withdrawn from the Tretbar-Scott Clinic at Stafford and returned to St. John where he formerly lived. He has new x-ray and physio-therapy equipment.

Dr. Albert L. Brown formerly of Garden City is now located at Lakin, Kansas.

According to an item in the Coffeyville News, Dr. J. M. Dickinson and J. D. Mc-

Million have purchased the Southwest Kansas Hospital from Drs. F. W. Duncan and C. S. Campbell.

Dr. C. O. Hoover of Quinter has been appointed county health officer of Gove county to succeed Dr. Cave who moved to Ellis county.

The secretary of the Decatur-Norton County Society says that society has not missed a meeting or program during its twenty years of existence. Its attendance during the past year averaged seventy-five per cent of the membership.

#### DEATHS

Chas. M. Moates, Leavenworth, Kansas, graduate of Meharry Medical College, age 63 years, died November 17, at St. Johns Hospital, of pneumonia. He was formerly city physician and was a member of the Kansas Medical Society.

Dr. Frances Alice Harper, Pittsburg, Kansas, graduate of Kansas Medical College, Topeka, 1904, died September 15, at the Mount Carmel Hospital, of cerebral hemorrhage.

J. H. Cushenberry, M. D., Girard, Kansas, age 83 years, died at his home there, December 19. He was a graduate of Washington School of Medicine, St. Louis, 1872.

Dr. John W. Wilhoit, aged 72, St. George, died November 28. He graduated from Ensworth Medical College at St. Joseph, Missouri in 1885 and has practiced at St. George since that time.

#### SOCIETIES

##### STAFFORD COUNTY SOCIETY

Society met in St. John Wednesday afternoon, December 9th, with the following members present: W. L. Butler, T. W. Scott, F. W. Tretbar, J. J. Tretbar, Stafford; M. M. Hart, Macksville; R. E. Stivison, J. C. Ulrey, L. E. Mock, J. T. Scott, St. John. Every resident member was present.

This being the annual meeting officers were elected for the ensuing year as follows: President, T. W. Scott, Stafford; Vice President, M. M. Hart, Macksville; Secretary-Treasurer, J. T. Scott, St. John; Delegate to State Convention, R. E. Stivison, St. John; Alternate, J. C. Ulrey, St. John. The annual dues were raised from \$5.00 to \$6.00. The matter of co-operative collections was discussed and Mr. Russell



Hibbs, an accountant, was requested to present a plan at the January, 1926, meeting.

Dr. Earle G. Brown, Secretary State Board of Health, was the guest of the Society and lectured on the subject of Co-operation. He used a large number of lantern slides in elucidating his talk which was very instructive and interesting. He delivered a public lecture in the evening at the Christian church on "The Responsibility of the Individual in Public Health Affairs." This lecture was also illustrated and was presented in language readily understood by the general public. A large audience attended.

Our Society will hold a number of public meetings during the coming year for the purpose of better informing the public regarding the history of scientific medicine, what it has accomplished, what it is doing and what it seeks to do.

Any city or community group in the county can secure one or more of these meetings by arranging for same through the Secretary of the Society, Dr. J. T. Scott, St. John. A number of the physicians' wives attended the meetings, among whom were: Mesdames Mock, Weil, Adams, Stivison, Ulrey and Scott. These ladies were entertained by Mrs. Scott, assisted by Mrs. Stivison. The entire company took dinner at the Arlington.

The retiring president, Dr. R. E. Stivison, closed a faithful year's work with an annual address of unusual merit which has been forwarded to our State Journal for publication. It is a pleasure to state in closing the record of the meetings in 1925 that this was one of the most enjoyable meetings in the history of the Society.

J. T. SCOTT, Secretary.

#### RENO COUNTY SOCIETY

Regular meeting of Reno County Medical Society was held December 8, 1925.

Following the dinner at the Rorabaugh Wiley Tearoom the annual election of officers was held and the following duly elected: President, Dr. Irl Hempstid; Vice President, Dr. Walter N. Mundell; Secretary-Treasurer, Dr. Harry E. Blasdel; Censor, Dr. C. A. Boyd; Delegates to the state meeting, Drs. H. M. Stewart and H. J. Duwall.

We are hoping for a very successful year.

LOUISE F. RICHMOND, Secretary.

#### DECATUR-NORTON COUNTY SOCIETY

The quarterly session of the Decatur-Norton County Medical Society was held at

Norton, Wednesday, December 9, 1925. There were 34 regular members and six visitors present. The guest of honor was Dr. C. L. Williams, of Topeka, Kansas.

At the annual business meeting, the following officers for the ensuing year were elected:

President, Dr. W. J. Lewis, Colby.

First Vice-President, Dr. J. H. A. Peck, St. Francis.

Second Vice-President, Dr. R. M. Tinney, Norton.

Secretary-Treasurer, Dr. R. G. Breuer, Norton, (re-elected).

Censor, Dr. W. C. Lathrop, Norton, (re-elected).

Delegates, Dr. I. V. Parker, Hili City; Dr. F. E. Richmond, Stockton.

Alternates, Dr. W. Stephenson, Edmond; Dr. W. F. Deal, Kanorado.

To comply with the increase in the dues to the State Society, the local dues were raised from \$4.00 to \$7.00. Drs. M. H. Hostetler, Phillipsburg, and B. F. Jeffers, of St. Francis, were admitted as members of the Society.

Dr. C. L. Williams, Topeka, addressed the meeting on "Foreign Bodies in the Eye." Foreign bodies were discussed from the standpoint of surface and penetrating bodies, and from the standpoint of diagnosis, treatment, and after-care. Dr. Williams presented an exhibit of fragments actually removed from the eye, x-ray plates, and case-reports.

The paper was discussed by Dr. Cole who elaborated on the Giant Magnet in the removal of iron and steel particles from the eye, and on preliminary care of the wounded eye.

Dr. Williams was tendered a vote of thanks by the Society and admitted as an honorary member.

Dr. W. E. McKinley, McDonald, Kansas, read a paper, "Is the Psycho-Neurotic Responsible for His Acts of Violence?" This paper was of timely interest and dealt with the newer conceptions of crime from the standpoint of the lawyer and physician. The paper was ably discussed by Dr. W. Stephenson of Edmond.

The visiting physicians were entertained at a 6 o'clock dinner as guests of the Norton physicians.

R. G. BREWER, Secretary.

#### SHAWNEE COUNTY SOCIETY

The annual meeting of the Shawnee County Medical Society was held at Pelle-



tiers Tea Room, Monday evening, December 7.

Officers elected for the ensuing year were:

C. E. Joss, M. D., President.

J. L. Lattimore, M. D., Vice President.

Milton B. Miller, M. D.; Treasurer.

Earle G. Brown, Secretary.

Arthur D. Gray, M. D., Member Board of Censors.

Forrest L. Loveland, M. D., Member Board of Censors.

The report showed a paid up membership for the year of 140. The society held nine regular meetings and one special meeting. The average attendance was 56 per meeting.

Following election of officers, a dinner was served for the members and their ladies. Following the dinner, a program was given.

EARLE G. BROWN, M.D., Secretary

#### WILSON COUNTY SOCIETY

The Wilson County Medical Society met at the Brown hotel at Neodesha, Monday evening, December 14th; supper and then to the business of the evening, which was first, a paper by Dr. B. P. Smith of Neodesha on ectopic pregnancy.

Next, election of officers for 1926 resulted in the election of Dr. J. L. Moorehead, President; Dr. W. H. Young, Vice-President; Dr. E. C. Duncan, Secretary; Dr. W. H. Addington, delegate to the State meeting in May, and Dr. E. C. Duncan, alternate.

It was agreed to invite a representative of the Wichita Bureau of Publicity to meet with us in January to discuss the dead-beat idea.

Adjourned to meet in Fredonia in January.

E. C. DUNCAN, Secretary.

#### BOOKS

The Art and Practice of Medical Writing, by Geo.

H. Simmons, M. D., and Morris Fishbein, M. D.

Published by the American Medical Association.

One who is ambitious to have a paper accepted for publication in any of the magazines published by the American Medical Association may save himself some humiliation by getting one of these books and studying it carefully. If it is his purpose to write a paper for publication anywhere, he will find one of these books a good investment. The chapter on words deserves care-

ful reading by every one in the profession. The misuse of words is a common habit and shows no signs of abating. The absurdity of some of these intentional errors is made very plain by the author.

The Surgical Clinics of North America for October St. Louis Number—W. B. Saunders Co., Philadelphia.

Dr. William Bartlett presents a review of six cases in whom a thyroidectomy and a second major operation were indicated. Crossen presents some cases of bleeding myoma. Sachs reports cases with various types of pathologic lesions of the central nervous system that are amenable to surgical measures. Fisher discusses the surgical treatment of ileocecal tuberculosis. Caulk reports cases of horseshoe kidney. One of the most interesting clinics in the number is on the treatment of congenital club-foot, by Abbot. Schmitz has a clinic on bladder fistula in gynecology and obstetrics. Seelig reports two cases of surgical treatment of angina pectoris and presents a very interesting discussion of the appendix. Blair and Brown have a clinic on the course and treatment of osteomyelitis of the jaws.

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#### Total and Subtotal Restoration of the Nose

To be acceptable, a surgically reconstructed nose, says Vilray P. Blair, St. Louis (*Journal A. M. A.*, Dec. 19, 1925), must be covered with smooth skin, have a normal contour, have an epithelial lining, and provide an adequate airway. Though not always necessary, a rigid support of bone or cartilage will usually add to the quality of the result. It is very desirable that the size and form of the new nose be in harmony with the particular face. Nasal reconstruction amounts to sculpturing with the live tissues for material, and this must be done in conformity with good surgical usage, combined with mechanical accuracy and some artistic feeling. Blair describes his method of procedure.

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#### Basal Cerebral Hemorrhage

Maurice Packard and Edwin G. Zabriskie, New York (*Journal A. M. A.*, Nov. 21, 1925), report four cases of basal cerebral hemorrhage in which the diagnosis was made before death. It is stated that the presence of persistent blood in the spinal fluid, hemolyzed red blood cells and variability of color from bright red to yel-

lowish tinged, without clot or large amounts of albumin, should always arouse the suspicion of cerebral hemorrhage at the base. It is possible that hemorrhage into the ventricles from ended vessels of a tumor may confuse one in making a decision; but in the latter case the blood-tinged fluid appeared late in the course of the disease, whereas in the former it invariably appears early, persists throughout, and remains bright red as long as leakage occurs. If the flow of blood ceases or in some way becomes temporarily walled off, the color changes to yellow, or may eventually become entirely clear, only to become red again when the accession of fresh blood begins.

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### Impacted Calculi of the Ureter

The treatment employed and the results obtained in sixty cases of impacted calculi of the ureter are presented by Alexander Hamilton Peacock, Seattle (*Journal A. M. A.*, Dec. 19, 1925). He says that while many ureteral calculi will pass through the ureter and be safely conducted to the bladder, a number of them will become impacted in the ureter. They are held in the ureter very often by such pathologic conditions as stricture, the size of the calculus, or the rough and crystal-like surface of the stone. The impacted calculi often remain in the ureter for years, and in this series of cases the average length of time was nine years. A calculus, once impacted, blocks off the urine, produces pain, pressure, dilatation of the ureter and renal pelvis, keeps up inflammation of the mucous membrane, and in time impairs the function of the kidney. These impacted calculi cause the patient to suffer intermittent or continuous pain for years, constantly threatening him with colic; as a result, the general health is markedly impaired. Stricture of the ureter plays a considerable role in the impaction of the calculi, being found in 18 per cent of the cases. Contrary to previous teaching, I have not found a normal constriction of the ureter except in the lower third, where the ureter travels through the bladder wall. The staphylococcus plays an important role in the formation of the stones, as it was found in 47.5 per cent of all the stone cases. Hematuria, either as microscopic or as red corpuscles, occurred in 94 per cent of the cases. Sixty-seven per cent of all the impacted calculi were in the lower third of the ureter. Impacted calculi are apparently a disease of middle life, the average age of

the patients being 43 years. In 96 per cent of the cases, the calculi were solitary. Ureteral dilation should be attempted first, as this method was successful in 50 per cent of the cases. Extraperitoneal ureterolithotomy should be performed when ureteral dilation has failed.

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### The Average Sex Life of American Women

The Committee on Maternal Health found that, as soon as it surveyed the field and persuaded seven clinics to work out contraception studies—indications, methods and results, and related sterility and sterilization—steps must be taken to develop essential data not available. Among these missing facts may be mentioned age at marriage and at childbirth, by single years, for American Women; duration of their reproductive life, with fecundity and fertility; the findings that make, or point to, the diagnosis of sex experiences; exact genital measurements; the anatomy of the sex act and the bearings of it on health; together with the correlation of pelvic disorders and diseases with sex practices of all kinds—the whole based no longer on opinion, but on trustworthy medical records. This paper by Robert L. Dickinson and Henry H. Pierson, New York (*Journal A. M. A.*, Oct. 10, 1925), is an introduction to the series, covering several thousand histories. As an important preliminary the authors propose the first summary of an epoch making and elaborate study published by Katherine B. Davis, for the Bureau of Social Hygiene.

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### Diathermy in Calcified Subdeltoid Bursitis

Joseph F. Harris, New York (*Journal A. M. A.*, Oct. 10, 1925), is convinced that diathermy in calcified subdeltoid bursitis is a curative measure and not a palliative one. A long series of cases treated over a period of years has shown a complete restoration of function and a absence of pain. It is therefore fair to assume that in each case the greater part of the deposit has been absorbed by this form of treatment. If not completely absorbed, it has been reduced to such a size that it does not interfere with the function of the shoulder. Up to this time there has not been a recurrence.

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### Urinary Calculi

The chemical composition and structure of urinary calculi in relation to radiography is discussed by Daniel E. Shea, Hartford,



Conn. (Journal A. M. A., Dec. 1925). He says that the relative opacity of a urinary calculus depends on the total molecular or atomic weights of its constituents and is influenced by its structure and thickness. Some urinary calculi having constituents of low atomic weights are negative to the roentgen ray. These include stones composed of uric acid, urates and triple phosphate. The diagnosis of urinary calculi should not be guided entirely by radiography reports. Cystoscopy and urography are very necessary as well as valuable adjuncts in the diagnosis of urinary calculi.

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### Health Work Handicapped by Inadequate Reports of Diseases

"For a number of years, the Federal Government through its agency, the Public Health Service, has insisted on obtaining from State and local health authorities, reports of communicable diseases, with very little share in the expense of collecting these data," said Surgeon General Cumming in an interview today.

State health officers are demanding better reports of preventable diseases. At the last conference of the State health officers with the Surgeon General, they proposed and unanimously adopted a resolution, asking that the Surgeon General take steps to create a registration area for morbidity reports comparable to the registration areas of the Census Bureau for births and deaths.

The number of insane and feeble minded, many of whom are in this condition as a result of preventable diseases, is constantly increasing and adding to the burdens of the taxpayer.

During the calendar year 1922, the last for which data are available, there were 78,070 persons cared for in alms houses and 348,928 in homes, day nurseries and similar institutions. In addition to these, there were in hospitals and other institutions for the care of the insane and feeble minded and epileptics a total of 348,174 persons. Records show that more than 400,000 persons go out from our State and Federal penitentiaries annually; many of those of our dependent classes as well as many of those in penal institutions are suffering from preventable diseases which in some measure are factors in their dependency or delinquency.

For several years past, an effort has been made to obtain appropriations for improving the accuracy and completeness of reports of diseases of men but without suc-

cess. An estimate of \$4,000.00 for this work was approved by the Bureau of the Budget for the fiscal year 1925 but this appropriation was not approved by Congress. A like estimate was submitted for 1926 but this also failed.

The last Congress ratified an international Pan-American sanitary code or treaty approved by the President, providing that each signatory power thereto, shall collect and publish statistics of communicable and preventable diseases, and this treaty has already been ratified by a number of Latin American republics and it is believed will soon be ratified by practically all of them.

"It is of the utmost importance," said Surgeon General Cumming, "that provision be made for the better collection of morbidity statistics, including those diseases which play such an important part in the production of insanity and feeble mindedness."

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### Medical School Notes

1. Dr. Frank Teachenor was elected Treasurer of the Western Surgical Association at their recent meeting in Wichita.

2. Dr. Thomas G. Orr read a paper on Experimental Jejunosomy in High Obstruction of the Jejunum at the meeting of the Western Surgical Association at Wichita.

3. Dr. C. C. Nesselrode read a paper on Thrombo-Angiitis Obliterans at the Meeting of the Western Surgical Association at Wichita.

4. Dr. Ollie Malcolmson, Class of '20, who has recently returned from Korea, where he has been a Medical Missionary, will soon go to St. Louis where he has received an appointment to an internship.

5. Dr. Carl, of St. Joseph, Mo., visited the Medical School recently.

6. Dr. Harold Roberts, '25, who has just returned from a 6 months study in the Clinics in Vienna and Edinburg, was a recent visitor.

7. Dr. H. R. Wahl was appointed Director of the Immunology Exhibit for the annual meeting of the American Medical Association at Dallas.

8. Dr. Nicholas Leich from the American



Medical Association visited the Medical School a few days ago.

9. Dr. O. O. Stoland, Professor of Physiology, attended the American Physiological Society at Cleveland recently.

10. Dr. Fred Rewerts, '24, who is located at Hanover, Kansas, Dr. A. B. Harrison, '25, and Dr. Walter M. Stephenson, '23, of Edmond, Kansas were recent visitors at the school. Dr. Harrison is interning at the Louisville City Hospital, Louisville, Ky.

11. Dr. Hugh L. Dwyer was elected Secretary of the Pediatrics Section of the Southern Medical Association, during their recent meeting at Dallas, Texas.

12. Dr. W. B. Mills, Professor of Pathology of the University of Colorado, and Dr. C. W. McClung, former Dean of the School of Medicine of the University of Kansas, and at present Professor of Zoology at the University of Pennsylvania, were recent guests of Dr. Wahl at the Medical School.

13. Dr. D. S. Tulford from the Mayo Clinic was a guest of Dr. Russell L. Haden, and gave a talk to the students on the Use of Insulin in Diabetes.

14. Dr. R. L. Haden, Professor of Experimental Medicine, read a paper at a joint meeting of the Chicago Medical Society and the Chicago Roentgenological Society recently, on the Value of the Radiograph in Detecting Peri-apical Infection.

15. Dr. M. H. Lyon, of South Bend, Ind., and Dr. P. B. McGrath from Rochester, Minn., who were in Kansas City attending the meeting of the American Association for the Advancement of Science, were guests of Dr. R. L. Haden at the Medical School.

16. Dr. A. W. Sullards from the School of Hygiene and Public Health from the Harvard University, recently visited the Medical School as the guest of Dr. R. H. Major.

could not be ascertained. The child died of exsanguination at the age of 1 month and 22 days. The jaundice appeared soon after birth and gradually grew in intensity until death. The urine and the serum under the blebs were deep yellow, an indication of hemolysis. No improvement was noticed as a result of the roentgenray treatment. The coagulation time and platelet count were not determined, but blood that had oozed out and had been undisturbed for more than seven hours was found to be liquid. After each transfusion, bleeding of the umbilicus practically stopped; but at the end of from four to five days, the bleeding recurred. Finally diffuse bleeding from the mucaus membranes of the mouth and intestines occurred. The intense jaundice of the skin suggested the possibility of an obstruction in the bile ducts, but the stools were of normal color. The bleeders in the family of this infant were on the father's, not the mother's side of the family. The father's Wassermann reaction was negative, and the obstetric history of the mother presents no indication of syphilis.

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#### The Phenomena Concerned With "Reactions" Following the Transfusion of Blood

Ralph A. Kordent and Frank Smithies, Chicago (*Journal A. M. A.*, Oct. 17, 1925), summarize their clinical and experimental study as follows: If whole blood is employed in blood transfusion and if donor blood is carefully selected, post-transfusion reactions are relatively rare; less than 4 per cent in our series. Post-transfusion effects of a harmful type may be minimized if donors are selected not only with respect to their place in the arbitrary four group classification of Moss, but when donor and recipient bloods are cross-grouped for estimation of their agglutinin-agglutininogen content. There are three types of post-transfusion; the immediate or hemolytic, the delayed, apparently not hemolytic but proteolytic, and the constitutional or non-hemolytic. The subjective and objective phenomena of hemolysis can be explained by the effects of lysed blood on the peripheral capillary bed. The mechanism of this capillary response is similar in kind, but greater in intensity, to peripheral vascular phenomena observed in Raynaud's disease, purpura, etc. The nonfulminant and delayed post-transfusion reactions are caused by anaphylactoid protein phenomena, but not necessarily of specific nature.

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#### Umbilical Hemorrhage Accompanied by Deep Jaundice

Honoria Acosta-Sison, Manila, P. I. (*Journal A. M. A.*, Oct. 17, 1925), reports a case occurring in a baby, aged 20 days. The cause of the hemorrhage and jaundice

### Enlarged Program For Maternal Welfare

The joint committee, representing the American Association of Obstetricians, Gynecological and Abdominal Surgeons, the American Child Health Association, and the American Gynecological Society, has organized a nation-wide propaganda to present an appeal for better obstetrics, more definite prenatal care and rigid asepsis.

Through State Chairmen of groups of lecturers, who will, on request, furnish a speaker for any meeting, the committee hopes to present a program on Maternal Welfare in every medical society in the state. Names of speakers are to be given by the State Chairman to the Secretary of the State Society, from whom Secretaries of District and County Societies may obtain information.

Originally it was planned to include in the Joint Committee representatives of the Section of the A. M. A. on Obstetrics, Gynecology and Abdominal Surgery, but owing to annual change in the personnel of the officers and the fact that no provision can be made for the financial support of a committee, this was thought by the officers of the Section to be impracticable.

The organization of the committee is now comprehensive throughout the country, and is already beginning to function in an effective manner.

One of the most vital problems which the profession must solve is that of the early reduction of the risk rate to mothers in childbirth. There can be no question as to where lies the responsibility for the vast majority of cases of puerperal sepsis and eclampsia, which are the two outstanding elements in maternal morbidity and mortality. It lies largely with the medical profession itself. The remedy for this condition is to be found, also, within our own ranks, and can be expressed in one word, Education.

It is believed that the program outlined by the Joint Committee will reduce by fifty per cent our risk rate to mothers in childbirth.

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### Diathermy in Joint Injuries

F. W. Ewerhardt, St. Louis (*Journal A. M. M.*, Oct. 10, 1925), regards diathermy as a safe heating procedure which can be localized in deep-seated tissues at will; the degree of intensity may be satisfactorily

regulated by means of suitable electrodes of varying sizes, properly applied and augmented by the cooperation of the patient. It is a valuable measure to at least partial control of pain, spasm and swelling in the earlier stages of fractures and joint injuries, and contributes, therefore, materially to a favorable functional end-result. Patients take kindly to it, they are favorably impressed with the procedure, and their cooperation is more easily secured when movements and massage are indicated. Unquestionably, the period of convalescence in the treatment of fractures is materially reduced. Its application seems indicated in postoperative bone and joint conditions, acute sprains, fractures and bursitis; when brasiere is found necessary; in acute and chronic arthritis, and in treating contractures and fibrositis. It is contraindicated in cases of pus sac without drainage, when there is danger of hemorrhage, and in tuberculous joints and suspected malignancy.

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### Mercurial Inunctions

When routine courses of mercury in the treatment of syphilis are intrusted to the patient, to be reported of course at suitable intervals, the mercurial preparation that now enjoys the highest favor is a carefully prepared ointment. The stomach of the patient is thus spared, and it is not a difficult matter to push the inunctions to the verge of toleration, thus obtaining the full mercury effect.

But most mercurial ointments are greasy, messy and ill-flavored. Moreover, unless they are put up in capsules or otherwise in individual doses, the amount of mercury administered can only be determined by reference to the reduction in the size of the bulk package, or to the number of bulk packages used. These considerations account, we believe, for the professional popularity of cacao-butter blocks containing a definite grainage of metallic mercury.

Blocks of this description, called *Mercuriettes*, are manufactured by Parke, Davis & Co., and supplied in packages that can be conveniently carried in the pocket. Each *Mercuriette* contains 50 grains of metallic mercury, evenly distributed throughout the vehicle, and is doubly wrapped—in tissue and tinfoil. A sharp knife will cut through both wrappers in subdividing the *Mercuriette*, so that what is not used at the time is not soiled in handling. See advertisement in this issue.



### Pulmonary Immunization

Certain tests made by W. H. Manwaring, Francis I. O'Neill, Kenneth W. Thompson and Leonard G. Dobson, Stanford University, Calif. (*Journal A. M. A.*, Nov. 28, 1925), with actively and passively immunized lungs, give a conception of immunologic adaptations of fixed tissues not in accord with current views. They indicate the removal or the masking of the preliminary fixed tissue hypersensitiveness, the development of fixed tissue resistances that in themselves would fully account for immunity, unassisted by circulating antibodies. As the lungs of passively and of actively immunized dogs are apparently identical in these tests, the tests give no evidence that any tissue represented in the lungs acquires properties during active immunization that cannot be accounted for by the local absorption or fixation of circulating antibodies. The experiments, therefore, give no support to the current hypothesis that the main or sole site of antibody formation is in the reticulo-endothelial system. They do not, however, rule out the possibility of antibody formation by this system.

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### Determination of Local Compression as an Indication for Laminectomy

Claude C. Coleman, Richmond, Va. (*Journal A. M. A.*, Oct. 10, 1925), summarizes his study as follows: Clinical study of patients with severe spinal cord injuries generally fail to give early information as to the extent of the cord lesion. Laminectomy for spinal cord injuries, except in penetrating wounds, is not indicated unless there is pressure on the cord. Pressure on the cord following fracture dislocation cannot be demonstrated by clinical study or roentgen-ray examination unless there is considerable vertebral deformity. Complete occlusion of the spinal subarachnoid space following injury should be taken to mean that the cord is compressed in a deformed or normal dural canal. The demonstration of such compression of the cord by the Queckenstedt test or Ayer's combined puncture after spinal trauma should be considered an unequivocal indication for operation.

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### Spontaneous Meningeal Hemorrhage

Josephine B. Neal, New York (*Journal A. M. A.*, Jan. 2, 1926), gives data of thirty-five cases of meningeal hemorrhage. Fourteen of these patients died. In four cases the meningeal hemorrhage accompanied an

attack of epidemic meningitis; in four cases, a cardiac lesion; in one, pneumonia; in one, syphilis; in one, nephritis, and in one, high blood pressure. In the great majority of cases, however, no cause could be determined. The most important measure in treatment is lumbar puncture. The puncture should be repeated daily, or less often, depending on the clinical symptoms. In most of Neal's cases it was followed by improvement. In many cases horse serum, in the form of antimeningitis serum, was injected intraspinally early. This may have had a favorable influence on the hemorrhage. Certainly when the bleeding and coagulation time are increased, measures should be taken to correct these conditions of the blood.

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### Stool Examination for Protozoa

The stools of 1,122 inmates of a New York state institution were examined by Walter S. Thomas and E. A. Baumgartner, Clifton Springs, N. Y. (*Journal A. M. A.*, Nov. 28, 1925), for protozoa. Of course of these, 499 showed one or more species of intestinal protozoa, giving a total incidence of 44.47 per cent. There was evidence of cross infestation. The influence of age is not great except in the case of *Giardia lamblia*, in which the young persons are more often infested. *Chilomastix mesnili* was the organism most often found. *Endameba histolytica* was seen in only 1.07 per cent of those persons examined. Taking this low figure into consideration, together with the facts that this was a class of patients in which a high incidence might be expected, that the patients were all confined in an institution where cross infestation takes place and that none of the 1.07 per cent with *Endameba histolytica* had at any time shown any evidence of amebic disease, we feel justified in believing that *Endameba histolytica* plays only an insignificant role in the production of disease in New York State.

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### Enormous Cardiac Distention

The cardiac dulness in the case cited by George L. Kessler, Brooklyn (*Journal A. M. A.*, Jan. 2, 1926), was continuous across the entire chest, measuring 12½ inches across, and 7½ inches in the perpendicular. The blood pressure was 108 systolic and 86 diastolic. The patient lived eighteen years with a heart ordinarily considered incompatible with life.

### Kidney Stone As a Diagnostic Problem

B. H. Nichols, Cleveland (*Journal A. M. A.*, Dec. 12, 1925), stresses the frequency with which kidney stones are found by roentgen-ray examination in patients who have been referred for the roentgenologic study of structures other than the kidney. In consequence, he has come to believe that in many cases kidney stones are not apprehended on account of insufficient or atypical symptoms. In order to arrive at a conclusion regarding the significance of certain clinical symptoms of calculus of the kidney. Nichols has analyzed a series of 164 cases to determine the frequency of occurrence of certain symptoms, together with their characteristics. Pain is the most constant symptom of kidney stone, having been present in 86 per cent of the series. It is of two types: (1) aching or continuous pain, and (2) colicky pain, the so-called renal colic. Next to pain, pyuria is the most common symptom and was present in 77 per cent of this series. Hematuria was found in 44 per cent of the cases. The symptoms of lesser importance, unless accompanied by pain, pyuria or hematuria, in the order of their occurrence in this series, are: frequency, 30 per cent; nausea and vomiting, 26.5 per cent; fever, 14 per cent; chills, 9.17 per cent. Other points of more or less importance that have been brought out in the study of this series have been the markedly higher incidence in males (63.4 per cent); the association of the stone with hydronephrosis in 25 per cent of the cases; the recurrence of stones and a history of a previous operation for stone. Methods of examination, especially pyelography, are discussed briefly.

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### Studies on Gastric Ulcer

Acute ulcers of the stomach have been produced by A. C. Ivy and P. F. Shapiro, Chicago (*Journal A. M. A.*, Oct. 10, 1925), in dogs and rabbits on the basis of local anaphylaxis to foreign proteins. Rabbits were injected with a protein until a skin ulcer was obtained. The specific protein was then injected aseptically into the gastric mucosa. Dogs with a pyloric pouch were sensitized to a protein. The provocative dose was injected into the mucosa of the pouch, and into the adjacent skin. The precipitin titer of the blood was followed in both series of experiments. The gastric mucosa of the rabbits killed at varying intervals presented the following sequence of

pathologic changes at the site of injection: (1) local passive hyperemia and edema in from one to two days after injection of the specific protein into the gastric mucosa; (2) induration and necrosis in from two to five days after; (3) ulceration in from three to six days, and (4) healing with papillomatous overgrowth after twelve days. In one rabbit, an ulcer was still present thirty-three days after. Positive results were obtained with egg albumin, beef protein, oat protein, edestin and horse serum.

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### The American Congress on Internal Medicine

The Tenth Annual Congress on Internal Medicine will be held at Detroit and Ann Arbor, week of February 22-27, 1926.

The Congress is devoted to amphitheatre, bedside and clinical laboratory demonstrations as well as to symposia dealing with modern phases of internal medicine. Distinguished guests from abroad, Canada and the leading clinics of the United States will occupy prominent places on the program. Four days will be devoted to the work at Detroit and on one day, the society will be the guest of the University of Michigan at the newly opened eleven hundred bed University Hospital.

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Hotel headquarters will be at the Book-Cadillac in Detroit. Information regarding reduced railroad rates, program, hotel accommodations, etc. may be secured from the Secretary-General.

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American Congress on Internal  
Medicine, Detroit, Mich.  
Frank Smithies, M.D., Sec'y.  
Gen'l., 920 N. Michigan Avenue,  
Chicago, Ill.

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### Dangers in the Use of Certain Halogenated Phthaleins As Functional Tests

Following the use of phenoltetrachlorophthalein, thromboses, local inflammatory reactions at the site of injection and chills have been encountered by many observers. Several deaths probably due to its use have been reported. Clinical and experimental work indicates the possibility of strain or damage to the liver, following injection of



the dye. Attempts to make phenoltetrachlorophthalein nonirritating on injection have failed. Many observers have noticed severe toxic reactions following the use of tetrabromphenolphthalein and tetra-iodophenolphthalein. W. H. Rossenau, Banning, Calif. (*Journal A. M. A.*, Dec. 26, 1925), says that the toxicity of the halogenated phthalein compounds should lead to caution in their use. Indiscriminate administration and overdosage should be avoided.

—R—

### Furuncle of the Nose

Thomas J. Harris, New York (*Journal A. M. A.*, Dec. 19, 1925), reports a case of furuncle of the nose resulting in septicemia, which was treated successfully by injections of mercurochrome. This case is instructive on a number of accounts. First, because of the etiology—an innocent appearing pimple in the nose of a healthy young girl following an incision on the third day gave rise to a swelling which extended to the cheek and eye, accompanied by high fever. There were numerous foci or supuration with staphylococcus infection of the blood, septic pneumonia and endocarditis, with recovery at the end of two months. Except for the fortunate re-

covery, the history of the case is not unusual. In the judgment of all who observed the case, the final recovery was due to the use of mercurochrome-220 soluble, 5 mg. per kilogram of the body weight in a 1 per cent solution, as recommended by Young. In all, four injections were given, none of them followed by any untoward results. In spite of the fact that there are cases on record of acute nephritis following its use, any unqualified statement that the cure was due to the mercurochrome cannot be made because of the fact that the patient had two transfusions. However, Harris strongly recommends its use under similar circumstances.

—R—

### Carbon Dioxid As An Aid in General Anesthesia

Personal experience has convinced John S. Lundy, Rochester, Minn. (*Journal A. M. A.*, Dec. 19, 1925), that carbon dioxid in moderate concentration assists in producing anesthesia, rendering the anesthetic apparently safer and easier to administer. Carbon dioxid should be used in such concentrations as will produce optimal results, and these vary with the individual and the type and stage of the operation. Too much car-

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bon dioxid is worse than none, and care should be exercised to prevent more than 5 per cent being used. The results thus far in a series of 1,350 cases in the Mayo Clinic are satisfactory enough to warrant further investigation by others in the use of carbon dioxid during the induction and maintenance and at the termination of ordinary and general anesthesia.

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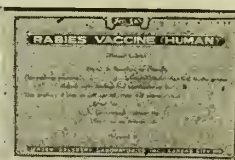
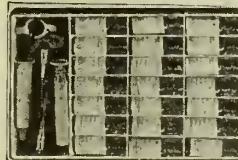
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No. 2

### Fractures

A. R. HATCHER, M.D., Wellington

Read at Annual Meeting of the Kansas Medical Society at Topeka, May 6th and 7th, 1925.

The subject of fractures is a large one and impossible to cover satisfactorily in a paper of this type. I only hope to discuss the subject in a general way.

They are common injuries, usually demanding immediate attention by the first medical man available and naturally many are seen by all of us.

It has become more generally recognized that a fracture is not alone a lesion of bone, but may also be associated with injury to the soft parts including skin, muscles, blood vessels, nerves as well as to the viscera protected by bony structures. We should look upon a fracture as a damage done to a complicated mechanism and the conception should cause the surgeon to be influenced in the management of the case. Our thought should be to aid in restoring the injured part functionally to the position the individual belonged industrially before the accident.

By the previous statements we recognize the grave importance to the patient and the unusual responsibility to the surgeon. Since we are encountered by two important phases, every detail must be looked after in care of such injuries.

At this time I would like to emphasize the importance of a complete and carefully kept record of every fracture. There is no class of patients where a carefully kept record is so essential. This history should be taken as a routine like all other examinations of cases, and include carefully all the history of the injury which was responsible for the fracture. The patient will appreciate the interest you take in him and you immediately increase his confidence in your work.

You will often gather information that will be of value to you in your treatment which has a bearing on the fracture. It is preferable to possess the whole truth before assuming the responsibility of a case than to make excuses afterwards. Suppose he is suffering from leukemia, anemia of

the pernicious type or is a case of lues, you will perhaps unearth these facts and gather them into your data. Keep a follow up on all dressings, radiographs, physical findings, history and laboratory work. This will be valuable to you as a guide in diabetes, in crippled kidneys and many other constitutional disturbances. Each case of fracture should have a case record of which you would be proud in any court of appeal. If accurate records were so made in all cases of fractures and the work so done ninety-eight per cent of damage suits would be averted and many doctors would not so dislike the treatment of fractures.

In state medical societies maintaining their own legal defense it is estimated that fractures constitute from 65% to 70% of all surgical claims. Now, why should fractures so often be the basis of damage suits? First, fracture treatment is taken under less favorable surroundings than any other surgery. In the State of Iowa where these statistics were gathered 75% of these damage suits were treated at home. Usually in homes surroundings are not good and the patient has poor supervision and care. Second, the conduct of the patient determines the result in many cases as they voluntarily remove dressings. Third, oft-times patients compare their results with a friend or acquaintance without taking into consideration the facts and conditions in the case. Fourth, the patient's knowledge of what was done in other surgical cases is very limited. He views the mechanics, disagrees with his physician and usually encouraged by his associates and an unfriendly physician, his mind is poisoned. Fifth, the surgeon should guard himself against promising the patient he will have as good an arm or leg as he had before he had the injury. The patient may believe it and hold him to strict accountability. Every fracture case should be x-rayed and if the patient is to be treated outside the hospital a consultant should see the patient with him.

Referring to the promises to a patient—one of the important things is to inspire confidence in the patient. Sometimes the doctor treats the fracture, puts it up and

proceeds to forget it, instead of saying, "Here is the situation. This bone heals slower than this bone," or, "It is more difficult to get this bone in line than this one"; "I will have to keep you in bed 12, 14, 16 weeks instead of three weeks. If the bone is not fixed end to end it is going to do just as well as though in perfect apposition";—Just talk to the patient and prepare him for just what he is to expect. Don't say, "Oh yes, inside of six weeks I will have you up with this thigh"; or, "In a couple of months I will have you at work with this fractured tibia," because nothing of the kind is true.

We know ordinarily a finger requires from three to four weeks to heal and yet some men will take down a fracture of the femur in five weeks and allow the patient to begin weight bearing. We know that if fracture occurs it takes a certain length of time for healing to take place even if the fragments are in perfect apposition; that there is going to be a certain amount of absorption. After the period of absorption Nature takes away a lot of debris then she has to fill in the skeleton work with new callous, she has to build that all up. These are only comparisons of what can be said about various types of fractures dependent upon their location.

X-ray. This is indispensable in the treatment of fractures, but, not to the extent that it would eliminate a careful physical examination of the injured part which would not be revealed by the x-ray. Every fracture should be x-rayed at least in two planes, or, stereoscopic radiographs should be made. A plate made in one position is oftentimes misleading.

The x-ray is our most valuable auxiliary—not the machine but the intelligence of the interpreter. X-rays should be taken before the fracture is reduced and another to see the result of the reduction and others as often as necessary for the protection of both the patient and yourself. Record all dates when dressings are changed, radiograph and treat every fracture with the precision of expecting to appear in court the next day.

Do not expect to see a reparative process in a radiograph in children before the end of two weeks and usually first seen in adults in about four weeks reaching its maximum in six weeks. If at the end of that time there is no appearance of calcification it is frequently due to direct violent trauma to the bone or the patient may have lues and a Wassermann should be made.

Now, as to the two general types of treatment for fractures. The closed and open methods. I believe in conservatism and think that many fractures are submitted to the open treatment unnecessarily and also believe that the pendulum is swinging to the side of the closed methods more generally than has been practiced in the past ten years. I do not wish to convey the idea there is no indication for the open methods of treatment of fractures but wish to be understood that with sufficient knowledge of anatomy and proper equipment most fractures can be handled more successfully by the closed method. In a rough way such bones as the scapula, clavicle, sternum, ribs, pelvis, small bones, arms, fingers and hands, feet and toes, do not require the so-called open plan, all have their exceptions. The simple easy fractures, those that can be easily reduced and little trouble experienced in maintaining the fragments in position, should not worry us much. X-ray, casts, and good after care give you the result desired.

Since I mention the word "cast," I would like to emphasize one important thing in simple fractures of the wrist. It should not be left continuously on the wrist longer than one week and seldom necessary to be left longer than the end of the second week.

The cases which give us trouble are:

1. Cases in which you cannot get proper apposition by external manipulation.
2. Those in which you cannot maintain proper apposition after reduction.
3. Compound fractures.
4. Fractures where injury has occurred to the surrounding structures and that require surgical care.

Group 1. Regarding the care of apposition we consider all long bones belonging to this class. Any of them may have muscle or fascia interposed preventing apposition or they may be difficult to appose due to their over lying muscles. One is surprised at the fractures of both the humerus and femur in which the ends are wrapped with muscle tissue. A case of depressed skull fracture, fractures of the malar bone, vertebrae, head of the humerus and femur, patella and many other bones fall into this group.

Group 2. Fractures that require fixation to hold the position are those upon which we most often operate and use some internal splint or fixation. To this group belong the lower jaw fractures, certain types of fractures of all the long bones, especially the humerus, femur, bones of the forearm,



occasionally horizontal fractures of the patella, in fact almost any bone may be subject to this classification. The femur, humerus, and both bones of the forearm especially in the middle and upper third more frequently require the open method than other bones. They are exposed to traumatism more because of function and position and for these reasons we must be assured of as nearly a perfect result as possible.

There are many plans for the application of the principles of internal splints or the open method. Each worker has popularized a plan and feels that his plan is superior and can be used in all cases. Those of you who have had broad experience know that it is best to fit a method to a case and not all cases to one method. The Lane plates are very popular with some and good results are obtained in many cases. Some of the spiral and oblique fractures are best suited to the Parham-Martin band. The sliding graft and the bone plug in others.

I have used all of these methods, carefully selecting the cases, with very good results. I believe all open operations for fractures however, should be done in a well organized operating room with exacting technique.

Group 3. Compound fractures always tax the ingenuity of all experienced men. No plan will serve all cases. Really the ability of the surgeon must demonstrate the plan that is efficient. The Balkan frame should be made use of in many of these cases in connection with Hodgen and Thomas's splints, in fact the fewer compound fractures we have the more nights of real rest we will enjoy.

The plans I have mentioned permits you to look after the FOURTH classifications such as injured tendons, nerves, muscles, and vessels. I never hesitate to open a fracture anywhere in the body if I feel it should be done, always being governed by the character and location of the fracture and the length of time transpiring since the injury. If you have a depressed fracture of the skull it requires the open treatment of if the brain is compressed by hemorrhage or the cord is similarly affected it may require laminectomy by the open method.

A few important rules in conducting the care of fractures are as follows:

1. The recognized importance of immediate skilled treatment of a recent fracture.
2. The recognition and treatment of shock.
3. Character of first aid dressing.

4. Immobilization of fracture during transportation with emergency traction: Therefore, the universal use of the Thomas splint or similar splint for fractures of the extremities is eminent.

5. Very scrupulous judgment against the use of metallic sutures and plates. A more general adoption of the suspension of fractures of the extremities.

6. The necessity of early active movement of joints contiguous to the fracture.

7. The value of active as distinguished from passive movements of joints.

I have not attempted in this paper to tell you how to treat fractures as this subject is thoroughly discussed in numerous books, but merely covered some of the salient features which are of importance to both the patient and the surgeon for the purpose of stimulating more thought in the management of this class of cases.

—R—

### Diverticulitis of the Colon

W. M. MILLS, M.D., Topeka

(Read at the Annual Meeting of the Kansas Medical Society at Topeka, May 6-7, 1925.)

Diverticulitis of the large intestine occurs sufficiently often to deserve consideration by our society, and especially so, since the subject has not been presented here for a number of years.

A diverticulum is simply a hernia of the mucous membrane of the bowel through a weakened muscle coat. It opens between the lateral and mesenteric longitudinal bands, and often follows the course of a small blood vessel to terminate in an appendix epiploica or in the fat of the mesenteric border. Diverticula may be solitary or multiple.

Diverticulitis is an inflammation of a diverticulum so it is apparent the two terms cannot be used interchangeably. The presence of a diverticulum shown by the x-ray or accidentally found at operation does not mean necessarily that the patient has diverticulitis, as it may be simply a condition of diverticulosis.

We know comparatively little about the etiology of diverticulitis. It is more apt to occur in individuals above normal weight, beyond middle age, who have a low general tone. It is more than twice as common in males as in females, and constipation is given as a strongly predisposing factor, although in my cases it has been a prominent symptom.

The location in eighty percent of the cases is in the sigmoid and in the majority of the others in the descending colon and

recto sigmoid. Diverticula occur not uncommonly in the right half of the colon but rarely cause symptoms or become inflamed as the bowel contents are fluid. In the sigmoid they become irritated by hardened fecal contents and inflammation develops. This may result in ulceration and perforation, or set up a productive inflammation and general thickening of the intestinal wall and subserous fat.

There are a number of further changes that may take place by the inflammation extending outside the wall of the gut, such as occur in appendicitis; perforation with local abscess formation; perforation with peritonitis; plastic peritonitis without abscess formation (the type of case which resolves without operation) or an abscess may perforate into a hollow viscus such as the urinary bladder.

Another type may develop in a chronic manner and form a diffusely thickened mass which resembles a cancer in many respects. This mass may contract sufficiently to cause obstruction. Several cases are reported where an obscure focus of infection proved to be in a sigmoid diverticulitis. Dr. J. T. Rogers has reported an interesting case of acute articular rheumatism cleared up by draining such a case.

The relation of diverticulitis to carcinoma has been discussed for years with the evidence gradually swinging against any association of the two conditions. Judd and Pollock report recently that during the time that 118 cases of benign diverticulitis were being accumulated, the Mayo Clinic operated on nineteen patients who had diverticulitis of the sigmoid, associated with carcinoma. In many of these cases there seemed to be no connection between the two conditions, the carcinoma having developed independently of the diverticulum. These authors state "It is probable that a patient with diverticulitis is no more likely to develop malignancy of the colon than one without it."

#### SYMPTOMS

Many cases have no symptoms until some secondary complication intervenes. The principal symptoms are pain, constipation and palpable tumor in the chronic type, and we often have a history of repeated attacks of left-sided inflammation with subsidence of symptoms. There may be urinary symptoms of pain and frequency due to involvement of the left ureter and this should be thought of in cases with negative urinary and cystoscopic findings. Bloody stools are present at times in some cases.

#### TREATMENT

Unless diverticula are giving definite symptoms no treatment other than regulation of the bowels is indicated and even where symptoms are present, conservative treatment may be frequently used. Abscess and perforation of course demand surgery and here a simple drainage gives the best results. Many severe cases with large tumor mass have remained cured after this procedure.

The obstructing cases with palpable tumor demand resection by one of the recognized methods, the Mikulicz operation being the safest. The high mortality of resection—10% in the best hands, will reserve this treatment for cases with a positive indication.

The following case reports illustrate some of the types:

*Case I. Simple Diverticulitis with Resolution:* Female, 62 years. Somewhat overweight and the mother of a large family. Had always had excellent health. She was mildly constipated and occasionally used saline cathartics. In February, 1925, she had an attack of acute abdominal pain which localized in the left lower abdomen. There was a moderate increase in temperature and leucocytes but there was no muscular rigidity. On the third day a small mass could be plainly felt in the sigmoid region which was slightly sensitive. In three days more all symptoms including the mass had disappeared and the patient is well at this time.

*Case II. Diverticulitis with Localized Abscess:* Female, 71 years old. Of average weight. Had enjoyed good health with the exception of "sour stomach" at times. She had had a severe attack of influenza three months before her admission on April 16, 1923. Four days previously she had a mild attack of abdominal cramps relieved by an enema and hot water bottle. Fourteen hours before admission she developed acute cramping generalized abdominal pain with nausea and without vomiting. The pain localized in the lower half of the abdomen which became very tender. Examination showed the abdomen moderately distended, with marked muscular rigidity in the lower half. This whole area was tender, slightly more to the right side. Vaginal examination showed a tender movable mass in the cul-de-sac not attached to the uterus. Temperature was 101.6°; pulse 108. W.B.C. 23,800. Polynuclears 80%. A tentative diagnosis of appendicitis was made and operation performed through a



right paramedian incision. A very acute diverticulitis of recto-sigmoid with a pelvic peritonitis and free pus was found. Drainage was instituted through the vagina with a rubber tube and the incision closed. Convalescence was complicated only by an infected wound and the patient has remained free from any recurrence of her trouble.

*Case III. Diverticulitis with General Peritonitis:* Female 41 years. Patient of Dr. C. B. VanHorn. Weight 220 pounds. During the past fourteen years had had three similar attacks. She was admitted September 2, 1922, eight hours after the onset of an acute generalized abdominal pain which became more severe in the lower half and slightly worse on the left side. The pain was agonizing and required morphine for relief. She did not vomit. There was generalized rigidity with some distention. Tenderness was localized in the left lower quadrant where an indefinite mass was felt. On vaginal examination a mass was felt high up and to the left. Temperature was 102°. Pulse 124. W.B.C. 17,000. Polynuclears 84%. Operation showed an acute diverticulitis of the lower sigmoid with much free pus and gangrenous tabs of fat. Dressed tube drains were introduced in pelvis on either side of the diseased loop. She had a stormy time for nine days when she had a severe epigastric pain and rapid rise of pulse. From this time she was the picture of a general peritonitis and died on the fourteenth day. Here a localized abscess probably ruptured into the peritoneal cavity.

*Case IV. Diverticulitis of Sigmoid with Perforation:* Patient of Drs. M. B. Miller and C. A. McGuire. Male 72 years. Weight 125 pounds. Had always had poor health, a great deal of nervous indigestion and frequent attacks of diarrhoea. He had never been able to take a cathartic. Three days before his admission on January 18th, 1925, he had discomfort in the lower left abdomen and painful defecation. Then there was more severe pain with relief for a day. A few hours before entering the hospital and following a small enema he had an agonizing attack of abdominal pain followed by a chill and temperature of 103°. Abdomen was boardy and he had the appearance of a case of perforation. There was an indefinite mass in the sigmoid region. The blood count was W.B.C. 22,800. Polynuclears 82%.

A diagnosis of acute diverticulitis with perforation was made. Operation showed free sero-pus and an acutely inflamed firm mass involving the recto sigmoid juncture,

with plastic exudate on the surrounding viscera. No visible perforation was found. Two cigarette drains were inserted and the wound closed around them. Convalescence was uneventful except for a small fecal fistula which eventually closed.

#### CONCLUSION

In diverticulitis we have a reasonably frequent condition which must be considered in diagnosing our acute abdominal cases. It may cause any of the symptoms and have all the complications of appendicitis. In the chronic hyperplastic form we have to differentiate it from a malignancy, remembering that some apparently advanced cancers of the colon are actually cases of diverticulitis that can be cured by surgery.

—————R—————

#### Experimental Evidence of the Relation of Dental Infection to Systemic Disease

RUSSELL L. HADEN, M.D., Kansas City, Mo.

Many cases have been reported in both dental and medical literature indicating a direct relation of oral infection to systemic disease. The clinical improvement noted following the removal of an area or areas of localized infection is taken as evidence of the causal relation. Such proof seems, however, only suggestive to the critical observer. In many cases also the anatomic changes which have taken place are of such a nature as to preclude a cure. Here the most to be hoped for is the prevention of recurrence of symptoms or a stay in progress of the course of the disease.

Various laboratory procedures have been resorted to, to afford further proof of a causal relation of the focal lesion to the systemic disease. For the most part these have been of little value. This statement certainly holds true concerning complement-fixation tests and also the attempts to find by blood studies changes in the leukocytes characteristic of active infection.

The best experimental proof by far of the causal relation of dental infection to systemic disease is that gained from the injection into animals of cultures of bacteria from chronic foci. The production in animals of the lesion from which the patient suffers by the intravenous injection of bacteria from a focus in the patient indicates strongly a causal relation. Rosenow in many experiments has shown that bacteria from chronic foci, if etiologically related to some systemic lesion, tend to produce in animals the lesion from which the patient suffers. Many other workers have not been

so successful as Rosenow in finding a specific localization. Failures have been largely due to the fact that proper culture media were not used and the organisms not transferred rapidly enough from the patient to the experimental animal.

For the past four years I have been studying experimentally the relation of focal in-

many experiments to illustrate the method of proof of causal relation of a focus to systemic disease by animal experimentation. Details of the methods of obtaining the culture material and making the cultures have been described in detail elsewhere<sup>1</sup>. All cultures have been made in deep tubes of glucose brain media (Fig. 1) to preserve the specific affinity of the organisms. The animals have been inoculated intravenously with 5 cc. of the original broth culture of the infected material. The culture employed is never over and usually less than twenty-four hours old. The animals have been autopsied routinely three to six days after the injection.

#### CASE REPORTS

##### *Endocarditis and Auricular Fibrillation*

Case 1. *History*: L. C. H., widow, clerk, clerk, age 60, complained of heart trouble. She had had chorea first at 12 with recurrent attacks for several years. At 14 she had had diphtheria and at 23, scarlet fever. Eight years before she had scleritis. For several years she had albumen and pus in the urine. At one time removal of a kidney was considered on account of the pyuria.

The patient stated she had been well up to 1912, eleven years before admission, when she had a severe attack of influenza. Two weeks later she began to have arthritis which persisted for six months. She was then well for several months, after which she began to have attacks of rapid and irregular heart. She had to give up work for seven weeks at this time on account of the heart symptoms. About once a year since this initial attack she has had an attack of heart trouble incapacitating her for work for six weeks to four months. During the past year the attacks have been occurring every few days and lasting only a few days at a time. The symptoms are worse on exertion. At times the ankles are swollen. Recently the patient had been to the Mayo Clinic where a diagnosis of paroxysmal auricular fibrillation was made.

On examination on admission there was a definite aortic insufficiency without demonstrable cardiac enlargement. The heart rate was slow and regular except for an occasional extra systole. The blood pressure was 140-170. The urine showed a few pus cells in clumps.

There was eleven pulpless teeth, only four of which showed definite radiographic evidence of infection.

*Animal inoculations*: The lower right second bicuspid and first and second molars were extracted first. All showed a profuse

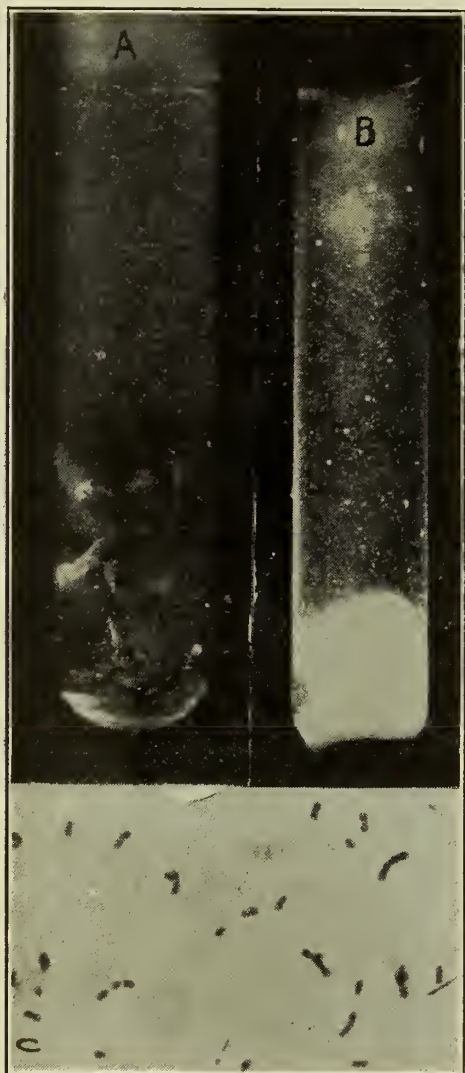


Fig. 1 A. Culture in deep tube of glucose brain agar of a periapical infection. Note the uniform growth throughout the tube. B. A culture similarly made which will not grow near the top of the tube in the aerobic zone. C. Typical short chain streptococcus from a periapical infection.

fection to systemic disease. The work has been done in the laboratory of Medical Research of the Deane Institute, Kansas City, and the laboratory of Experimental Medicine of the University of Kansas Medical School at Rosedale.

The following cases are selected from



growth of non-hemolytic streptococci. Two rabbits were injected. One had at autopsy a few endocardial vegetations, a few abscesses in the medulla of the kidney, and a small amount of purulent fluid in the joint. The other rabbit showed a massive vegetative endocarditis of the tricuspid valve (Fig. 2), a few lesions in the myocardium,

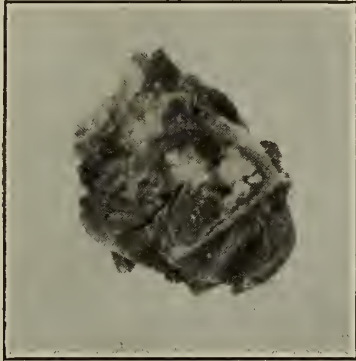


Fig. 2. Large vegetation on the heart valves of a rabbit injected with organisms from teeth of patient (Case 1), who was suffering from auricular fibrillation and aortic insufficiency.

and slight involvement of the joints. One rabbit was injected with the cultures from the lower left bicuspid and second molar. At autopsy a few vegetations on the heart valves, numerous small abscesses in the wall of the left ventricle, a purulent arthritis and a few kidney abscesses were found. Two rabbits were injected with the cultures from the remaining teeth. One was dead the following day. There were many hemorrhages in the endocardium of the left ventricle and at the base of the papillary muscles. There were also a few hemorrhages and small vegetations in the right auricle near the ventricle.

The other rabbit died two days after injection and at autopsy showed only early vegetations on the mitral and the tricuspid valves, and mural thrombi in the right auricle.

**Case 2. History:** S. E. O., a woman, age 40, in February, 1924, had acute arthritis. On a stringent milk diet she improved and the marked edema which she had had, almost disappeared. When seen six months after the onset there was still a large amount of albumen, casts and a few red cells in the urine. Some edema of the feet persisted.

The tonsils had been removed cleanly some years before, and three teeth had been removed during the present illness. There were three non-vital teeth remaining, two of which showed large areas of apical rare-

faction (Fig. 3A). These were removed. All showed on culture a profuse growth of streptococci.

**Animal inoculations:** Two rabbits were injected with the mixed cultures, and killed three days later. The kidneys of both animals were swollen, and grey in color. The cortex was studded with pinpoint hemorrhages (Fig. 3B). There was also joint in-

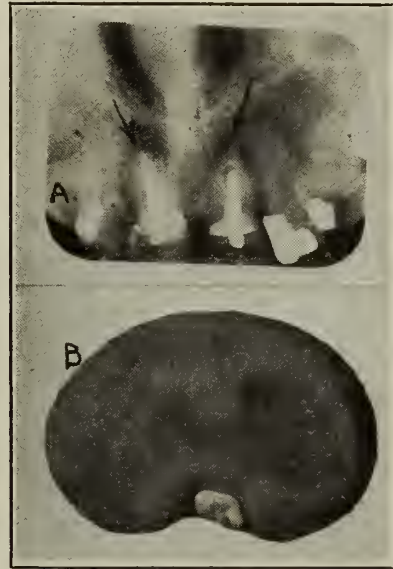


Fig. 3. Infected upper central incisor teeth of patient (Case 3) suffering from chronic parenchymatous nephritis.

B. Kidney of rabbit injected with streptococci from teeth shown above. Note the multiple hemorrhages in the cortex.

volvement, and necrosis of the heart muscles in both animals. One had also lesions in the eye, muscle, and stomach.

The albuminuria manifested by the patient disappeared over a two month period following the extraction of the teeth. The patient is now perfectly well.

#### PEPTIC ULCER

**Case 3. History:** H. A. A., a business man, age 44, had several gastric hemorrhages in December, 1922. For six months previous to this he had had indigestion, consisting principally of a feeling of fullness after eating. A diagnosis of duodenal ulcer was made. Several teeth were extracted at this time. There were no further hemorrhages, and the symptoms were largely relieved, although the patient stated that he still had indigestion at times, for which he took soda.

Roentgenograms taken in June, 1924, showed one tooth of questionable vitality and one pulpless tooth with little roentgeno-

graphic evidence of infection. At the site of extraction of the upper left first bicuspid and first molar, some filling material remained, and the surrounding bone showed evidence of infection (Fig. 4C). The two teeth were extracted and the infected bone curetted. Cultures in deep tubes of glucose-brain-agar showed a short chain streptococcus in all.

*Animal inoculations:* Two rabbits were inoculated with the mixed broth cultures. One rabbit was dead the following morning and showed many hemorrhages in the duodenum. The second rabbit was killed. This one showed also many hemorrhages in the first third of the duodenum without lesions elsewhere (Fig. 4A). In order to deter-



Fig. 4. A, duodenum of rabbit injected with the mixed cultures from patient (Case 3) who had had a duodenal ulcer. Note the numerous hemorrhages in the duodenal bulb; B, duodenum of another rabbit following the injection of the culture from an area of infected bone only from the same patient; C, area of infected bone the culture from which produced the lesion shown in B. The arrows indicate particles of filling material which had been left in the bone when the tooth was extracted.

mine whether the area of infected bone might play a part in the causation of the ulcer, one rabbit was injected with 5 cc. of the broth culture from this area only. At necropsy, twenty-four hours later, the duodenum showed massive hemorrhages (Fig. 4B). There were no other lesions.

#### RECURRENT HYALITIS

Case 4. *History:* L. P., a steam fitter, age 25, was first seen June 25, 1920. He complained of something flying around in front of the right eye. This was first noticed about three weeks previously following an attack of influenza, and had become gradually worse.

The fundus was seen poorly. No hemorrhages were present. Many fine dust like

opacities and some larger ones were floating freely in the vitreous, also shreds of hyaloid tissue to which were attached numerous dust like opacities. There was no opacity of any kind to be found in the aqueous or on the back of the cornea and no inflammation was apparent. Vision in right eye 20/100.

Under treatment the vision became better, 20/50, and at one time 20/40. Between June, 1920 and February 1922 the patient had had four light attacks and one very severe one which left the eye almost without a reflex. These exacerbations did not come on suddenly as they would have if they had been recurrent hemorrhages. From the time of his first visit the patient was urged to have all his pulpless teeth extracted, but several were not removed.

A general physical examination February 24, 1922 was negative. The tonsils had been removed. Blood: red cells, 4,632,000; hemoglobin 90 per cent; white cells, 7,400; differential count: PMN, 55.5%; PME, 4.5%; PMB, 2.0%; SM, 25.5%; LM and

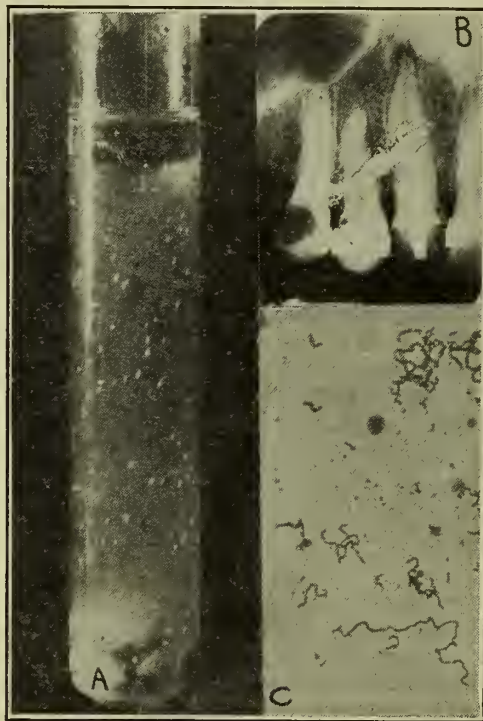


Fig. 5. A, original culture tube from the tooth shown in B, from patient (Case 4) suffering from hyalitis; C, photomicrograph of the organism in agar tube at left.

Trans., 12.5%. The urine showed no abnormality and the Wassermann test was negative. Radiographs of the teeth showed that the upper left cuspid (Fig. 5B), and



lower left second bicuspid were pulpless with poor canal filling and some bone absorption at the root tip. The lower left lateral incisor was a peg tooth, the root was poorly filled and there was a large alveolar abscess. The three pulpless teeth were extracted. The brain agar cultures showed no growth from the lower left lateral incisor, and only a few colonies from the lower left second bicuspid. The cultures of the upper left cuspid showed an infinity of colonies of a non-hemolytic streptococcus, (Fig. 5AC).

*Animal inoculations:* March 1, 1922 two rabbits were injected with the broth culture from the upper left cuspid. One developed numerous patches of choroidoretinitis and died three weeks later. The autopsy findings were ascites and very large white kidneys. The other developed exudate in the anterior chamber and corneal opacities of both eyes 24 hours after inoculation. The following day the eyeballs were extremely red (Fig. 6A). The right iris was dis-

the eye. Two rabbits injected with this culture died in a few hours without showing any localized lesions. Two rabbits injected with the culture from the right eye of one of the second set of rabbits developed patches of choroidoretinitis and were killed six weeks later. The other developed no lesions.

Three weeks after the original apical cultures had been made, organisms were removed from the agar tube with a sterile pipette, grown in broth for 24 hours, and injected into three rabbits. One developed a cloudy vitreous and died four days after inoculation. Autopsy revealed an arthritis. The second animal showed a pericorneal injection three days after inoculation. The iritis gradually cleared. The vitreous of the right eye became increasingly hazy. The red reflex was lost entirely and there was little pupillary light reflex (Fig. 6C). The animal died eight days after inoculation. Necropsy was negative except for the find-



Fig. 6. Eye lesions in rabbits produced by the intravenous injection of organisms from teeth of patient (Case 4) suffering from hyalitis. A, appearance of eye following the injection of original culture; B, eye of second rabbit injected with the original culture. Note the pericorneal injection and the exudate in the anterior chamber. C, eye of rabbit with complete loss of vision due to a hyalitis following the intravenous injection of the attenuated culture. The loss of light reflex due to involvement of the vitreous humor may be noted; D, eyes of rabbit injected one year later with the culture from another tooth of the same patient.

colored all the way around and the left partly around with milkish grey exudate (Fig. 6B). There were greyish deposits on the cornea. The animal was killed. The autopsy was negative except for the eye findings. The streptococcus was recovered by smear and culture from both eyes. March 5 two more rabbits were inoculated with the streptococcus recovered from the left eye of the preceding rabbit. One developed circumcorneal injection and a choroidoretinitis and died 13 days later. Autopsy showed only kidney abscesses. The other developed a very marked injection of both eyes and died within 24 hours. A short chain of streptococcus was recovered from

ings. One year later localization was obtained in a rabbit's eye (Fig. 6E) with the culture from another tooth.

Case 5. *History:* R.S., a housewife, age thirty-six, complained of a tremor of the hands and right foot. She had had influenza in 1918 and the usual childhood diseases. Her present illness began with several abscesses in the right axilla. Following this she continued to feel tired and six months later began to have a tremor of the right hand. The tremor gradually became worse and involved the left hand and right foot. She was very nervous and cried easily.

There was marked obliteration of the

lines of expression. She was in a stooped position. The tremor of the right arm was marked and unintentional in type. The deep reflexes were much exaggerated. There were five crowned teeth several of which showed areas of apical rarefaction. The tonsils were moderately large.

*Animal inoculations:* Two rabbits were injected with the mixed cultures from the extracted teeth. One rabbit injected with 5 cc. was dead the following day. Autopsy showed only multiple hemorrhages in the sciatic nerves (Fig. 7) and a few in the

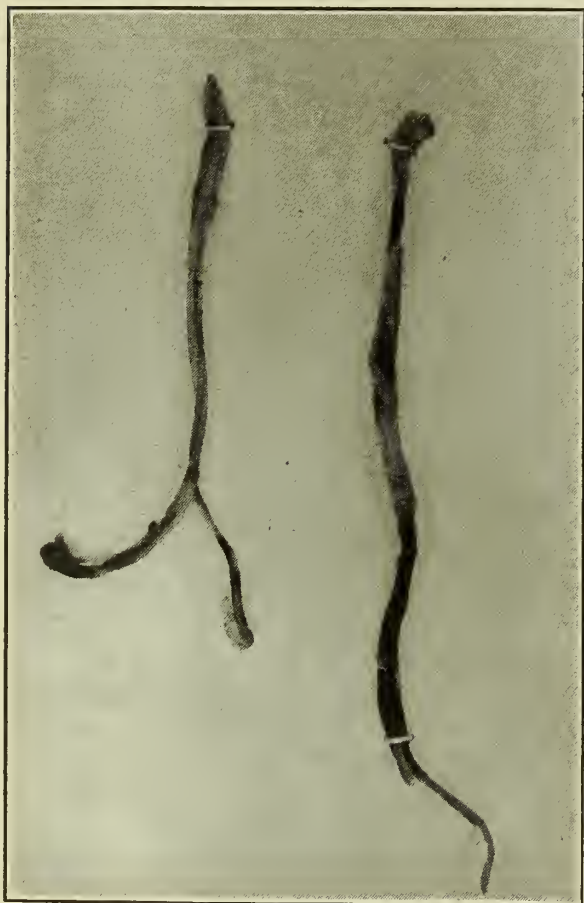


Fig. 7. Multiple hemorrhages in the sciatic nerves of rabbit injected with cultures from the teeth of patient suffering from infection of the nervous system. (Case 5).

gray matter of the cord and brain. One rabbit injected with 3 cc. died forty-eight hours after injection. The examination showed only hemorrhages in the sciatic nerves and a few hemorrhages in the first part of the duodenum.

#### PEPTIC ULCER

Case 6. *History:* E. W. M., aged 25, an elevator constructor, complained of pain in

the stomach, stating that he had had an attack of epigastric pain lasting several weeks in 1921. He had never had any other serious illness. His present attack had begun six weeks before admission, and was characterized by a gnawing pain in the epigastrium coming on before meals and relieved by food and soda. He was kept awake at night by the pain.

The patient was a well nourished, athletic individual. The tonsils had been removed. The physical examination was essentially negative. The blood count showed 3,584,000 red blood cells and 11,900 leukocytes. The stool was negative for occult blood. The meal showed 18 per cent acidity, free hydrochloric acid and 60 per cent acidity total hydrochloric acid at the end of an hour.

The dental roentgenograms showed three pulpless teeth all presenting evidence of infection.

*Animal inoculations:* Two rabbits each were injected with the cultures from the left lower central incisor, upper left cuspid and upper left first molar. Two were killed, and one died twenty-four hours after injection and showed no lesions at necropsy. Three were killed forty-eight hours after injection. One showed hemorrhage in the first part of the duodenum and lesions in the kidney medulla. One showed only muscle lesions; the other muscle lesions, and ulcer in the pyloric end of the stomach, and slight joint involvement.

One month after the first teeth were ex-

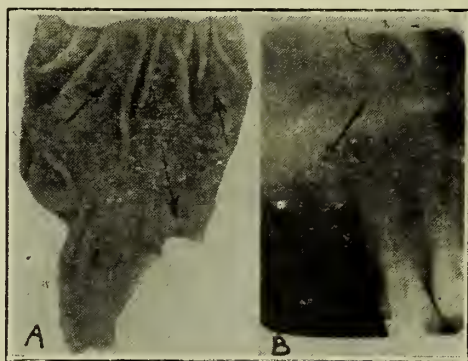


Fig. 8. A, ulcers in stomach of rabbit produced by the intravenous injection of the organism recovered from the area shown in B (Case 6); B, area of infected bone at the site of extraction of infected tooth, the culture from which showed a streptococcus.

tracted, an area of infected bone in the region of the upper right cuspid was curetted (Fig. 8A). A profuse growth of streptococci was obtained in the deep agar tube. One rabbit was injected with broth culture.



At necropsy, two days later, there were multiple hemorrhages and beginning ulceration in the pyloric end of the stomach (Fig. 8B). There also were abscesses in the kidney medulla, hemorrhagic areas in the muscles and the myocardium, and small vegetations on the mitral valve.

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### Blastomycosis, With Report of Four Cases

S. T. MILLARD, M.D., AND W. B. GODDARD, M.D., Topeka, Kansas

Blastomycosis cutis or blastomycetic dermatitis, while formerly regarded by dermatologists as an unusual if not rare disease, has of recent years appeared to be quite common from the number of cases reported, especially in certain portions of Kansas<sup>1</sup>, and that fact would indicate an apparent increase. Certainly the dermatologists of the country are recognizing the condition more frequently during the last decade and this fact would indicate an increase in numbers. The profession is deeply indebted to Gilchrist<sup>2</sup> who first described an American case and demonstrated the blastomycetes as the causative agent. The occurrence of the disease has always appeared endemic and not especially wide spread. The recognition of some dozen cases in and about Baltimore and certain portions of the South by Hazen<sup>3</sup> and about Chicago by Ormsby<sup>4</sup>, and several cases from time to time from the eastern portion of Kansas are indicative of its limited sphere of activity.

The disease manifests two distinct types of attack; the systemic, which is rapidly fatal and the cutaneous which, while essentially chronic, is often found in the acute stage or with an acute outbreak on a chronic background. It is to the cutaneous manifestations of the disease this paper refers. While the tendency to chronicity obtains and the lesions often assume an apparent inactive tendency and so exist for many years, they occasionally exhibit an acute exacerbation with all of the symptoms attendant upon such a condition resumed. Generally in the latent conditions there are little or no subjective symptoms and if present are limited to varying degrees of tenderness and occasionally pain of a stabbing character. The disease is usually inclined to heal with little or no deformity but occasionally there is much tissue destruction and consequent distortion by scar formation. Since this condition, if left unrecog-

nized or improperly treated, tends to cause so much concern to the patient generally and particularly in those few disastrous cases which cause deformity, certainly much can be accomplished by early recognition and proper treatment.

The disease more commonly attacks adults during the active periods of life but may occur at any age (two cases having been reported in the two extremes of life, eight months<sup>5</sup> and seventy-six years<sup>6</sup> respectively). Most authors claim a predilection for men but our report of cases shows an equal frequency in women. Certainly the farmer folk or those who work with stock and poultry and live an out-door life and those who are exposed to industrial hazards<sup>7</sup>, are more frequently the hosts of this disease. The hands, feet and face are the sites of predilection, apparently due to exposure.

The disease in the skin begins as a papule or papulo-pustule which soon becomes covered with a brownish to blackish crust. The lesion enlarges slowly in the form of an indolent, flat, wart-like or crusted papule. Seldom does the physician see the condition in its early stages because of its slow development and the absence of subjective symptoms and the lesion is usually an inch or more in diameter and the papillomatous crust well formed when first seen. In lesions of moderate development and duration there are certain well defined conditions which are characteristic if not pathognomonic; the papule or patch is elevated from one-eighth to three-eighths of an inch above the surrounding skin; the surface is covered by irregular, papilliform elevations, separated by clefts or fissures of variable depths, giving it a verrucous or cauliflower like appearance; in many of the lesions which have been kept clean or in those with a crusted covering which has been removed, the papillary projections are of a fine texture and the surface is firm and decidedly warty, often the papillomata extending one-eighth of an inch above the skin surface. The border of the area is one of the most characteristic features; it slopes more or less abruptly from the elevated, roughened surface, to the normal skin, from which it is sharply defined. The sloping edge is smooth, of a dark-red or purplish-red color, is from one-eighth to three-eighths of an inch wide and on close inspection with a hand lens these borders are seen to be closely beset with multiple miniature abscesses. In fact in any lesion with active tendency it is possible to demonstrate these pus-filled cavities and secure

material from whence the blastomycetes are recovered.

In about one-half of the original cases reported the primary lesion has been followed in the course of a few weeks to months by one or more new lesions in the immediate vicinity of the parent lesion as satellites. Spread of the disease seems to be through new implantation rather than by contiguity of tissue; close observation has evolved clinical evidence of auto-infection. The mode of entrance into the human skin is not fully understood but the consensus of opinion is that trauma is essential to the ingress of the organism. The infectious character of the organism has been demonstrated by animal inoculation.

Blastomycosis must be differentiated from epithelioma (usually of the prickle cell type), tuberculosis verrucosa cutis, lupus vulgaris, bromoderma, certain vegetating or frambesiform types of syphilis and sporotrichosis. Prickle cell carcinoma develops more rapidly, is more persistent in its growth and destruction of tissue, gives a shorter history of duration, does not show a papillomatous but a pearly surface, tends to metastasize and show adjacent adenopathy and is usually a single lesion; occurs usually after fifty years of age. Tuberculosis verrucosa cutis occurs more frequently between the ages of twenty and forty, lesions are multiple, more often found on the arms and legs, is not raised above the surface of the skin so prominently as in blastomycosis, the ulcers are deeply seated and after they are well defined are the so-called punched out type; they occur in poorly nourished individuals suggesting tubercular foci somewhere in the system; the history of the lesion, while chronic, is shorter than that of blastomycosis. Lupus vulgaris is essentially a tuberculide of youth and more often attacks the face, is slow in growth, occurring usually in poorly nourished individuals, is covered with darker and dryer crusts, often blackish-brown, which tend to pile up distinct lammellae or extended papillomatous excrescences; the cleaned borders exhibit, under diascopy, the so-called apple jelly nodules; often there are other evidences of tuberculosis. Syphilis may simulate blastomycosis in a few instances but usually the history of luetic infection can be elicited and the clinical and serological findings aid in determining the condition; again the arsphenamins or mixed treatment will usually clear up a luetic lesion very rapidly while this method of treatment does not affect blastomycosis. In the bromide eruptions there is usually obtained

the history of drug-taking; the blastomycetes are absent in the lesions; the eruption, while often resembling those of blastomycosis in color, are multiple, wide spread and not raised above the skin surface so prominently; often withdrawal of the drug effects a spontaneous cure of the lesions. The lesions of sporotrichosis are all subdermal, tend to follow the course of the lymphatics, thus giving rise to an elongated area of involvement and in most instances the sporothrix can be recovered.

In the treatment of this malady multiple procedures were indulged in; earlier the lesions were completely removed by surgery and while this was the most effective remedy, often effecting a complete cure, many of the lesions recurred because of the inability to completely eradicate the organism. Curettement and cauterization have been resorted to with more or less dissatisfaction and in a few instances systemic involvement has ensued following these latter methods. Many antiseptic solutions have been tried with varying results, some apparently very brilliant but most of them utter failures. Various internal remedies have been exploited only to be discarded as fruitless. For some considerable time the iodides, in massive doses, have proven effective and a few cures have been reported from this remedy, but in view of the fact that the disease has been known to heal spontaneously it is still a mooted question as to the therapeutic value when used alone. Since the scientific laws of irradiation have been established a formidable remedy has been evolved. The combined method of x-ray radiation and large doses of the iodides, preferably the potassium salt, has proven the remedy par excellence. Contrary to the accepted regimen in x-ray radiation of sub-intensive doses, in conditions of similar pathology, this condition requires much larger dosage and especially in the deeper and more dense lesions. From the character of the chronic lesions, with deep involvement and crusty, dry coverings, it would appear that the moderate dosage would suffice, but practical experience proves the necessity of not only large doses but often filtered dosage is required. In the acute forms, where the lesion projects to quite an extent above the surrounding skin, large doses are required and if the lesion is closely screened by sheet lead little or no reaction is noted, this because the density of the lesion exposed absorbs the radiation very effectively and in that case practically no normal skin is exposed to the rays. If screened a slight distance from



the lesion little reaction is noted and a slight reaction in the surrounding skin is thought better, that security from outlying organisms may be provided. During the irradiation there can be applied no antiseptic solutions and that fact has helped to prove the efficacy of irradiation, for a remedy possessing antiseptic faculty is contraindicated on x-rayed surfaces. It will be noted in the treatment of cases reported that both remedies have been pushed at suitable intervals corresponding with dosage, especially with reference to x-ray, and depending upon the stage of the lesion as well as the condition present.

Summary of important diagnostic features:

1. The history of more or less long standing.
2. The decided elevation of the lesion above the surrounding skin.
3. In the older lesions a cleared or sunken center.
4. The dark-red or purplish halo, one-eighth to three-eighths of an inch wide, surrounding the lesion and ending abruptly at the skin surface.
5. The papillomatous surface, which is always present, often covered by the crust but easily demonstrated if the crust is removed.
6. The multiple abscesses between the clefts of the papillomata.
7. The demonstration of the blastomycetes in the discharges.
8. The resistance to ordinary methods of treatment.

#### REPORT OF CASES

Case No. 1. Mrs. L. H., farmer's wife; age 54; general health good; fairly well nourished; heart normal; blood pressure 130-80; urine normal; lives outdoors much of the time and raises chickens. Examination reveals seven distinct lesions, of seven years duration, on the back of the left hand and wrist, varying in diameter from one to three centimeters. The surfaces are dry (with the exception of the larger lesion), harsh, a brownish-black crust on top and a distinctly papillomatous or verrucal covering. The larger lesion, near the wrist joint, was still somewhat active and had slight sero-purulent discharge. The smaller lesions showed a decided exfoliation with dry tendency. In each instance the lesion showed a purplish-red halo at the periphery and down to the normal skin where it ended abruptly. Some tenderness was complained of in the larger lesion but the smaller lesions gave no subjective symptoms. The

blastomycetes were not recovered from these lesions, a not uncommon procedure in this type of lesion. Treatment was instituted Nov. 22, 1924, by giving one and one-fourth skin units of filtered x-ray through 1 mm. of aluminum, augmented by large



Case No. 1. Duration seven years, dry, verrucal type.

doses of potassium iodide. On Dec. 8, 1924, three-fourths skin unit of unfiltered x-ray was given; Dec. 23, 1924, one and one-half skin units of filtered x-ray were given through 1 mm. of aluminum and on Jan. 23, 1925, this patient returned with an apparent cure but one and one-half skin units of unfiltered x-ray were given as a precaution against recurrence. It will be noted that the x-ray dosage was alternated, filtered and unfiltered, the former because of the density and depth of the lesions, the latter to care for the surface skin infection. Potassium iodide was given amounting to 120 grains daily. This case responded very promptly and required less amount of x-ray than those subsequently noted. Cure was complete.

Case No. 2. Mr. O. C. M., retired farmer; age 70; general health good; well nourished; heart normal; blood pressure 160-90; urine normal; has been actively engaged in farming until recent years; examination re-

veals a single lesion, two centimeters in diameter, on the left hand between the thumb and index finger; gives a history of 20 years duration; the lesion is a dark-brown color and presents a papillomatous surface and dark-red border ending abruptly at the skin surface; the center was somewhat

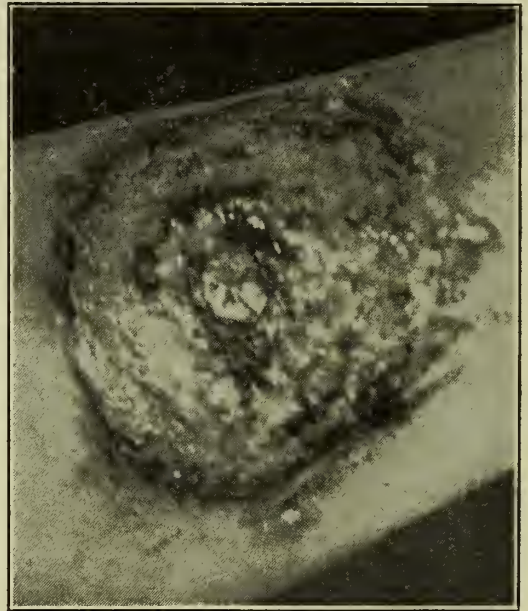


Case No. 2. Duration twenty years, inactive for many years, recurrence followed incomplete cure.

active and a distinct whitish pus was expressed from between the papillomata from which the blastomycetes were recovered; slight tenderness was complained of in the lesion; treatment began April 14, 1925, with one and one-fourth skin units of x-ray unfiltered; on May 19, 1925, one skin unit was given; June 18, 1925, one skin unit was repeated and again on July 18, 1925, one skin unit was given, when the lesion appeared practically cured. On Aug. 18, 1925, this party was due for what was thought to be a final dose of x-ray as a precaution against recurrence but did not come on that date. On Oct. 3, 1925, this patient returned and the lesions had recurred, at which time the photo was taken. Two skin units of unfiltered x-ray were given at this time; on Nov. 11, 1925, two and one-half skin units were given; Dec. 14, 1925, three and one-

half skin units were given and a marked improvement noted. This case is very interesting from two standpoints. First, that recurrence is very probable unless every vestige of the lesion is eradicated; second, that in the thickened, active lesions much larger doses of x-ray are not only tolerated but are required. In each instance, where large doses were given, the lesion was closely shielded with sheet lead. Large doses of the iodides were continued during the x-ray treatment. This case is not yet cured but decided improvement is noted and it is expected that response will be prompt and immediate.

Case No. 3. Mrs. C. M., farmer's wife; age 42; general health very good; well nourished; lives out doors much of the time; heart normal; urine normal; blood pressure 125-80; examination reveals a grayish-brown lesion on the posterior aspect, in the middle third, of the left leg, measuring two and one-half inches in diameter and raised one-fourth inch above the skin surface; the lesion was covered with a moist, dirty-



Case No. 3. Duration one month, acute, active lesion.

brown, crusty material with a considerable oozing of sero-purulent matter; the odor was markedly foul; the edges of the lesion showed marked papillomatous development and a dark-red halo extending down to the normal skin where it ended abruptly; blastomycetes were very abundant in the secretions and were readily recovered; the lesion had existed for one month thus placing it



in the acute class; much tenderness and pain was complained of; there were satellites beginning about the parent lesion which may be detected in the photo. Treatment was instituted July 31, 1925, by giving one and one-half skin units of x-ray unfiltered; Sept. 30, 1925, one and one-half skin units of unfiltered x-ray were given Nov. 2, 1925, one and one-half skin units of unfiltered x-ray were given, and again on Dec. 3, 1925, one and one-fourth skin units of unfiltered x-ray were given, making a total of four doses with five and three-fourths units of x-ray in this case. The iodides were given in large doses throughout the course of treatment. This lesion responded very promptly from the first dose of x-ray and at the time of the last treatment the lesion had cleared entirely and the skin almost normal; there will be no scar formation in this case. Cure was complete.

Case No. 4. Mr. G. McC., retired cattle dealer; general health very fair; fairly well



Case No. 4. Duration forty years, inactive most of this time until two years ago following curettement.

nourished; age 82; heart normal; urine normal; blood pressure 160-90; examination reveals a single lesion on the back of the left hand, one and one-half inches in diameter, and raised above the skin surface three-eighths of an inch; the lesion is open and fairly clean with depressed center and

decidedly raised edges which are markedly papillomatous and with a dark-purplish color ending abruptly at the skin surface; the lesion is adherent to the tissues over the metacarpal bones; abundant pus is easily expressed from the multiple abscesses between the papillomata at the edge; blastomycetes were recovered from this lesion; this lesion very much resembled carcinoma clinically, but its typical appearance, the history of 40 years duration (most of which time it has remained inactive) and the recovery of the blastomycetes established the diagnosis. The lesion had been cauterized two years ago, since which time it has manifested an actively acute tendency. Treatment was begun Oct. 29, 1925, by giving three skin units of unfiltered x-ray; on Dec. 10, 1925, the second dose of two skin units of unfiltered x-ray was given. Large doses of potassium iodide were given with the x-ray treatments. Very little reaction from irradiation has been noted in this lesion; this is due to the fact that the lesion was shielded closely with sheet lead and further from the fact that the density of the lesion absorbed the radiation effectively. The results thus far in the case are highly satisfactory and we anticipate a complete cure but at the time of this report there have been but two doses of x-ray given and the case is still under treatment.

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—R—

#### Focal Infection, With Special Reference to the Teeth

O. E. STEVENSON, M.D., Oswego, Kansas

Read at Joint Meeting of Doctors and Dentists of the Labette County Medical Society, April 22, 1925.

About 78 per cent of our adult population have demonstrable chronic infection about the teeth, and it is now estimated that about 88 per cent of all deaths, are the result of infection, microbic action, and it is barely possible that cancer will be added to the list of diseases caused by microbic life. We have learned that the growth of microbes resembles the growth of seed, and must have a soil adapted to them which may have to do with age, degeneration, in-

herited traits, and changes due to food. Thus in the last few years we have come to pay more attention to dietetics than ever before, and have come to believe that there is a great deal in the statement that a man often digs his grave with his teeth.

The revised theory is that certain kinds of bacteria have a nucleus, but no cytoplasm. Such bacteria use the soil, the fluids or tissues in which they live, as cytoplasm. It is well to emphasize the fact that teeth may become infected from elsewhere, it has been proven that nearly all of the root filled or pulpless teeth that have been pulpless for more than a year have got their infection from some where else.

But if they have become infected, are they ever going to get over that infection? No. The pulpless tooth is a sequestrum, and the body can not destroy infection in that sequestrum, unless it can carry its attacking forces up to the surface of the tooth and absorb the tooth, and get to the organisms inside, and that type of person is always the type of the absent susceptibility, and they alone have the absorption of the roots.

The relationship between dental infections and diseases, if such exist, should be demonstrated by other means than the establishment of simply an association of the two in the same person, or the development of such lesions in experimental animals with cultures taken from focal infection. The green producing streptococci under which grouping approximately ninety-nine per cent of the strains taken from chronic infected teeth will classify, and generally spoken of as the streptococci viridans, injected into the marginal ear vein of a rabbit, very frequently does not give an acute inflammatory reaction such as we get from many other types, especially the hemolyzing strains. Showing that at least some of the characteristics have been altered.

In humans, we find that chronic dental infections do not produce the blood picture of acute infections, instead of there being a marked leukocytosis, there is frequently a marked leukopenia. The polymorphonuclears, instead of being increased, tend to be decreased in percentage, and the lymphocytes increased. When, however, a dental infection is producing an acute reaction, as an acute abscess, it then produces the marked leukocytosis and increase of polymorphonuclears.

These patients tend to develop a marked rise in temperature, more or less extensive swelling, sever pain and physical depression, usually terminating in the rupture of the

abscess from its pressure, and rapid fall of fever and return to normal. In those with low defense this process is much less acute, and most frequently absent. The condition tends to take on a chronic state with slight tenderness or no local tenderness, and a tendency to the development of subnormal temperature.

The chemical changes in the blood are of importance, probably the most important being the ionic calcium, and the alkalinity index, if our calcium is up to or above normal it very much diminishes our susceptibility.

Human beings as they come under observation, have a very great difference in their capacity to destroy micro-organisms from focal infection, which are chiefly streptococci and staphylococci.

We have all observed that mouths with active pyorrhoea have little or no caries. Why is it that patients, who have the most dental infection in their mouths, as judged by flowing pus from fistulas, and number of broken down and abscessed roots, as well as suppurating pyorrhoea pockets, generally present themselves, without a history of disturbance while those who have very little evidence of oral suppurative infective processes or tenderness of the teeth will have degenerative disease elsewhere.

We could take up the matter of heredity, immunity, and susceptibility, etc., but we are all more or less familiar with that stuff. When a patient with a normal defense has an overload such as grief, exposure or poor nutrition, he is unable to continue the maintenance of an adequate quarantine. The warfare is no longer a fight to the finish about the tooth, and the organisms and their toxic products pass into the body, and that warfare, which should have been made in the special tissues close to the source of the infection, must now be made in the various organs and tissues of the body. The local dental involvement now ceases to be uncomfortable, because of no local disturbance. The accumulating toxic and bacterial material produces general changes in the blood and in the defensive forces, and the final battle may have to be made in the various organs and tissues far from the source of invasion. Since the blood stream rapidly distributes to these various structures, the final warfare must be made there, and that organ or tissue tends to break which has been most weakened by some of the overloads mentioned above, or by that other uncontrollable factor (as far as the individual is concerned), namely, his or her inherited susceptibility, which now proves



to be a factor, which relates to individual organs and tissues, and which apparently is the reason why certain diseases run in families, as cancer, heart disease, apoplexy, rheumatism, etc.

A few weeks ago Dr. P. T. Bohan of Kansas City gave us a very interesting lecture on "Focal Infection in Peptic Ulcer," and if the members will excuse the repetition, I will partially review his subject, as I believe it will be of interest to our dental friends.

Dr. Bohan tells us that the etiology of peptic ulcer is an undetermined question. It is agreed that the fundamental change is a localized impairment of the mucosa with subsequent digestion of the damaged tissue. There is no agreement as to what causes the initial injury. There have been several theories advanced, each having its exponents. The infectious origin of ulcer has been championed by some observers for many years. This view was based on the well-known association of ulcer with pyemia, from various causes, and the finding of bacteria in the ulcer by earlier observers.

Bolton raised the question "whether many cases of simple acute ulcer owe their origin to some local septic focus which is so commonly unrecognized or unheeded."

Eusterman states that infection is the only tenable theory of the causation of ulcer at this stage of medical progress.

The evidence of the infection theory of ulcer has been thus summarized by Eusterman: Fatigue, chill, exposure and so forth, are predisposing factors when the resistance of the host is temporarily lowered.

Symptoms of ulcer sometimes first become manifest within a few weeks or months after devitalization of teeth. Exacerbations of the ulcer are coincident with extraction of infected teeth or with exacerbation of infection in these structures themselves. The radical removal of all possible foci has repeatedly caused subsidence of gastro-intestinal disturbances, and evidence of increased healing of the otherwise refractory ulcer.

Persistent gastric malfunction without demonstrable local lesions has ceased after removal of devitalized teeth with periapical disease or after their drainage and treatment.

Suppurative gingivitis, the result of extensive pyorrhoea, provokes an infectious gastritis, and if not taken care of in time, may result in permanent damage to the gastric glandular tissues.

On the other hand, infection that is sealed in and under tension undoubtedly produces

embolic focal lesions of the digestive tract through the blood stream.

The experimental data regarding the relation of infection to ulcer we owe entirely to Rosenow and his co-workers.

In 1913, Rosenow showed that the intravenous injection of streptococci may be followed by ulcer of the stomach and duodenum. Later he demonstrated that streptococci are commonly found in ulcer of the stomach in man, and that the streptococci isolated from the ulcer as well as those from foci of infection in patients having ulcer reproduce, when injected into animals, ulcers of the stomach and duodenum resembling those of man. From peptic ulcers in domestic animals a streptococcus has been isolated, which will produce similar lesions in rabbits. Rosenow finds also that the streptococci of ulcer produces a poison within its substance and free in broth cultures, which injures selectively the mucous membrane of the stomach. Immunization experiments indicate that the streptococci of ulcer are closely related and probably specific for this disease. It is a point of great interest that the streptococcus of ulcer, if kept under aerobic conditions, will maintain specific affinity and localizing power for as long as eight and one-half years.

Certainly, the best proof we have of the causal relation of an organism to a disease is the reproduction in animals of the lesions of the suspected organism. The ability to produce specific lesions depends on several factors. Rosenow in many experiments, has fully demonstrated a tendency of bacteria to reproduce in animals the lesion from which the patient suffers. As confirmation Dr. Bohan working with Dr. Russell Haden produced evidence of such a selective localization in diseases of the eye, in pyelo-nephritis, and gastro-intestinal lesions.

Seventeen cases of undoubted clinical gastric or duodenal ulcer have been studied. In twelve patients, dental infection was the focus of infection. Forty-five rabbits were injected with bacteria from infection in dental areas. Of these, 53 per cent showed at necropsy lesions of the stomach or duodenum. During the period covered by the experiments, 535 other rabbits were injected intravenously with cultures from dental infection in patients not known to be suffering from gastric or duodenal ulcer. Of these, only seven per cent showed gastric or duodenal lesions.

I will give one of the doctor's case histories, which is rather typical of a number he related.

Case H. A. A., a business man, aged 44, had several gastric hemorrhages in December, 1922. For six months previous had had indigestion, consisting of a fullness after eating. A diagnosis of duodenal ulcer was made. Several teeth were extracted at this time. There were no further hemorrhages and the symptoms were largely relieved, although the patient states that he still has indigestion at times, for which he takes soda.

Roentgenograms in June, 1924, showed one tooth of questionable vitality and one pulpless tooth with little evidence roentgenographic of infection. At the site of the extraction of the upper left first bicuspid and first molar, some filling material remained, and the surrounding bone showed evidence of infection. The two teeth were extracted and the infected bone was curetted. Cultures in deep tubes of glucose brain broth agar showed a short chain streptococci in all. Two rabbits were inoculated with the mixed broth cultures. One rabbit was dead the next morning and showed many hemorrhages in the duodenum, without lesions elsewhere. In order to determine whether the area of infected bone might play a part in the causation of the ulcer, one rabbit was injected, with 5 c.c. of the broth culture from this area only. At necropsy, twenty-four hours later, the duodenum showed massive hemorrhages. There were no other lesions.

I have had some of these cases and, while they may not be as romantic as some of the ones related to the doctors, have one case I would like to give as a sample.

Case J. T. R., a retired farmer, age 63, came under observation with a gastric disturbance in March, 1921, his history brought out the fact that it had occurred with periodicity for a number of years. For three months previous symptoms marked, gastric hemorrhage and severe pain, lost forty pounds in weight.

Roentgenographic examination as well as stomach analysis made us suspicious of malignancy. As he had chronic infection in his mouth from devitalized teeth, his gastric symptoms were so severe with quite a retention, Dr. E. E. Liggett performed a gastro-enterostomy, the duodenal end of his stomach was a mass of adhesions, no cancer. He made a rapid recovery, regaining his strength and weight, and after four years is in good health, with no stomach symptoms.

Dr. Hayden has probably done more bacteriological work on infected teeth than any other man in this country. He is thoroughly

reliable so that no doctor or dentist has any reason to doubt any of his statements. He has a very interesting article in the March number of the American Journal of Medical Sciences.

He tells us there seems to be no need for a discussion of the mode of infection in acute kidney disease, pyelo-nephritis. The proof seems absolute that the infection is practically always of a hematogenous origin. This conclusion has a most important bearing on the question of the source of the infecting organisms. It was formerly agreed or thought that the colon bacilli was the bacteria concerned, but he has proven by his work that the staphylococci and streptococci are the organisms doing the damage. This conclusion has a most important bearing on the question of the source of the infecting organism. His contribution to the subject concerns primarily the study of kidney lesions developing in rabbits as the result of the intravenous injections of bacteria, usually streptococci, recovered from periapical dental infection. The localization was interesting. Number of animals, 416. Percentage of animals showing lesions in: joint, 57%; kidney, 40%; muscle, 29%; endocardium, 17%; myocardium, 12%; brain, 9%; eye 25%; stomach and duodenum, 10%; gall bladder, .2%.

The doctor likewise reported six cases in which kidney lesions similar to which the patient suffered were produced in animals by the intravenous injection of organisms recovered from infected teeth.

The evidence seems to be increasing that dental infection stands in an important and until recently unrecognized causal relationship to many remote pathological conditions.

#### COMMENTS

This has been rather a conglomeration, as I have taken this up mostly from the standpoint of teeth as foci. While there are other sites for foci above the neck, I have tried to interest our visiting dentists.

In those persons with high defensive mechanism, the long continued presence of the antigenic substances of focal infections, such as chronic infected teeth cause zones of irritation to develop as sensitization reactions, namely, skin diseases, asthma, and possibly hay fever. These are often completely relieved by the removal of the focal infection when it is the source of the antigen, as it frequently is. There is much more than suspicion that these factors have more than an association in the grouping of cancer development cases in that group



with the high streptococcal defense. Tuberculosis tends to be associated with decalcifying processes about dental infections and in patients without a previous tendency to dental caries.

#### SUMMARY

The simple extraction of an infected tooth in the great majority of instances effectively removes infection. In some cases, however, as in the one related by Dr. Bohan, the patient's resistance is not sufficiently great to heal the area of infected bone. This is especially common in cases in which systematic disease is arising from the infected area, since such, in itself, is evidence of insufficient resistance to overcome the infection. Such residual infections may smoulder for years, and again produce systematic disease when the patient's resistance is lowered. Another point little appreciated in evaluating possible dental infection as a factor in systematic disease is that the roentgenographic findings cannot be translated into terms of number of bacteria. A pulpless tooth that does not show sufficient bone destruction to be evident in the roentgenogram may, nevertheless, harbor enough bacteria to be a focus of serious infection. It has been proven by bacteriologic and experimental methods that the roentgenographic negative pulpless tooth is almost as frequently infected as the one showing bone destruction.

Many dentists think too many teeth are being sacrificed and that an x-ray negative tooth is not a focus of infection, while Haden shows that 43% of such teeth contain virulent pathogenic micro-organisms, so indirectly the greatest opportunity and the highest responsibility rests on the dentists in the filling of root canals and in the prevention of these areas in the mouths of the generations to come, thus avoiding the necessity of extracting so many teeth to eliminate mouth infection.

To those of us of the other variety of the brotherhood, it behooves us to study our patients thoroughly from the standpoint of chronic infection, and the removal of all possible foci.

Dr. Frazier in the April number of Medical Sciences shows that many teeth are being needlessly sacrificed by extraction in cases of facial neuralgias, as in no instance has he ever known a case to be benefitted by such procedure.

—R—

Ability to hold the breath is now recognized as a diagnostic symptom in diagnosing certain diseases.

## UNIVERSITY OF KANSAS CLINICS

### Clinic of Dr. Thomas G. Orr

Department of Surgery

#### CONSERVATIVE TREATMENT OF FRACTURES OF THE FEMUR IN CHILDREN.

This patient will well illustrate nature's compensation mechanism in fractures of the femur in children. The patient, a boy 11 years of age, received a transverse fracture of the upper third of his right femur while coasting. He was treated by a modified Hodgen splint with very little weight and as a result developed two inches overlapping. At the end of two weeks his apparatus was changed, placing his leg in a typical Hodgen splint with Buck's extension. Although the weight was increased it was not possible to overcome the overlapping completely, and the fragments united with one inch shortening. He was repeatedly x-rayed and operation considered. Knowing the tendency of femur shortening in such fractures to be compensated by overgrowth, operation was decided against. A cast was applied at the end of four weeks and he was allowed to go home. He wore this cast for four weeks when it was removed and he was kept in bed and chair for four weeks more. At the end of that time he was permitted to use crutches and began to bear some weight. As customary with boys, he rapidly increased the weight bearing until the use of crutches ceased at the end of four and one-half months after injury. In six months he was doing regular 18 hole duty as golf caddy. He had a measured shortening of the injured femur of one-half inch when examined 8 months after injury. He was then walking without a limp and appeared entirely normal.

#### DISCUSSION

Fractures of the femur in children present problems that differ from those in the adult. These differences are of extreme importance in the treatment of such injuries and without their consideration often radical measures may be used when conservative methods may be clearly indicated.

It has now been proven by the observations of E. D. Truesdell<sup>1</sup>, T. H. Cole<sup>2</sup>, V. C. David<sup>3</sup>, and Burdick and Siris<sup>4</sup>, that in the growing child shortening due to fracture of a femur is compensated for by nature through an increased growth in the length of the bone. It is then not essential, albeit very desirable, that perfect anatomical reduction be obtained to secure a perfect func-

tional result. Shortening in a fractured femur of a child under 15 years of age is of less significance than a similar injury to an adult femur.

Truesdell<sup>1</sup> in 1921 reported five cases of femoral fracture in children from 5 to 14 years of age with an actual lengthening of the injured extremity as shown by measurements made 15 months to nine years after the treatment. Cole makes the definite statement that "the immediate shortening due to overriding of fragments in growing bone tends to correct itself, even though the fragments have healed in overriding position." This conclusion is very definitely corroborated by David's review of femur fractures in 75 children ranging in age from one to eleven years. He presents 47 patients with shortening at the end of traction treatment varying from  $\frac{1}{8}$  to 1 inch. In all of these cases his measurements showed that the fractured femurs had returned to normal length in 2 to 15 months. In one patient with 2 inches of shortening, measurements made 19 months after treatment showed that but  $\frac{1}{2}$  inch of shortening remained. Burdick and Siris concluded that marked displacement and overriding of the fragments will usually result in a good functional limb, without appreciable deformity, tilting of the pelvis or compensatory curvature of the spine. They also noted an appreciable lengthening of the fractured femur within a year or two after injury in 15 cases.

It is then a definitely proven fact that fracture of the femur in children stimulates a growth of the bone in length which may compensate for shortening due to overriding of fragments. This fact should be impressed upon the minds of all who treat fractures of the femur in children so that operative procedures may be reduced to a minimum.

There is also a tendency for angular deformity to become corrected. Bones in young children are greatly influenced by the action of muscles and tend to correct deformities spontaneously.

Of 12 cases of femur fracture in children treated at the Bell Memorial Hospital the above described patient has shown the greatest shortening. The recovery in this case illustrates well the advisability of conservatism in the treatment of such fractures.

It must not be understood by the above remarks that careless or lax methods in the treatment of these cases are advocated. Nor is it intended that an attempt to obtain perfect anatomical reductions is

not advised. It is emphasized that in event a perfect anatomical result cannot be obtained, that a fore-knowledge of nature's results is necessary to save pain, suffering and increased danger to the life of these young patients by ill-advised operative interference. Here as elsewhere in fracture of the long bones proper alignment is absolutely essential. Even though there is definite shortening, if the normal axis of the bone is restored good functional results may be expected.

In our treatment of fractured femurs we have used three methods, depending upon the age of the patient. In children under 6 years we have used the overhead extension of Bryant followed in four or five weeks by plaster spica for an equal length of time which is in turn followed by a similar period on crutches or in bed making in all about four months before weight bearing is permitted.

The plaster spica has been used in some cases from the beginning with good results. This method is not to be used unless watched with great care for displacement of fragments. In the older children the Hodgen splint with Buck's extension is used. A very useful method of treating the older cases suggested by Burdick and Siris is by reduction and plaster spica on the Hawley table supplemented by Buck's extension to maintain traction.

#### CONCLUSIONS

In considering the treatment of fractures of the femur in children the following conclusions may be drawn.

1. There is a definite tendency for such fractures to show a compensatory growth which will overcome shortening and often to such an extent that the fractured femur becomes longer than the uninjured.

2. There is also a tendency for rotation and angular deformities to decrease as the child grows.

3. If a proper knowledge of the restorative powers of the injured femur in the young is known, operation will rarely be resorted to to obtain good functional results.

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#### Neurological Clinic of Dr. A. L. Skoog PERNICIOUS ANEMIA

This represents a clinical demonstration shortly before death, and the later presentation of the post-mortem material.



C. M., age 60 years, widow, was admitted to the Bell Memorial Hospital, Aug. 22, 1925, and died Sept. 17, 1925.

Her chief complaint was "nervousness." She had had the usual childhood diseases, and influenza in 1923. Her mother died of senility; father, one brother and sister died of causes unknown. One brother is living and well. Her husband died of locomotor ataxia. One child died of "spinal meningitis." Four children are living and well.

The present illness began about one year ago when the patient noticed a numbness in the fingers of both hands and in the toes. This disturbance of sensation spread up the legs to about the middle of the abdomen, while in the upper extremities it progressed only to the wrists. The patient had been "very nervous" during the last six months and her head has invariably been drawn to the left during certain attacks. There were no headaches or pains. She had a good appetite and slept well. There is a history of chronic constipation. Nocturia was present twice. About six weeks before death, patient became unable to walk because "ankles and feet persisted to cross." Knees were weak, and there was noticed a peculiar creepy and crawling sensation in the legs when standing.

While the relatives insisted that their mother had had the present illness but one year, yet we were able to elicit the information that treatments for certain "nervous attacks" have been received on several occasions one or two years earlier. About eight months before entering Bell Memorial Hospital, she was examined and treated for about eight weeks in two New York Hospitals, in one of which an eminent New York neurologist diagnosed a neurosis.

Physical examination reveals a well nourished white woman, about sixty years of age, very restless, lying in bed. The blood pressure is 110/65. There is no gross cardio-vascular disorder. The skin has a suggestion of a lemon tint. No teeth are present. Tonsils are atrophied. Thyroid is normal. Ears and nose are negative. Abdomen is of the pendulous type with some possible enteroptosis. Jerky movements of the head and hands and an occasional drawing of the head to the left have been observed. There is tremor of the hands and fingers. Muscle power is greatly impaired. She is unable to walk. Both legs are spastic and frequently move involuntarily. The patellar and Achilles reflexes are exaggerated with an ankle clonus. There is a bilateral positive Babinski and suggestive Oppenheim. Impaired sensation extends over

the lower extremities, more below the knees than in the thighs. Deep pressure sense was indicated three to four inches above the tibia and over the lateral surface of the thighs. Coordination is poor. Pupils have been equal but reacted rather sluggishly to light and accommodation. The retina and disc on each side are somewhat pale and show some blurring. Nystagmus is present. The tongue is protruded mesially but with some tremor. For a few months past some mild mental deficiencies have been observed. She has been excessively irritable. Some mental impairment is present.

Laboratory analyses: Urine,—acid, specific gravity 1018, no albumen, trace of sugar, occasional pus cell.

Blood,—r. b. c. 3990000, Hbg. 87%, w. b. c. 7200, clotting time four minutes.

The Kahn and Wassermann were negative.

Blood chemistry,—Urea 11.91, chlorides 550, creatin 1.3, sugar 161.

Spinal fluid,—cell count 3, goldsol negative, Wassermann and Pandy negative.

Gastric analysis,—No free HCl. combined acid 15%.

A special blood count was made on Sept. 12th, by Dr. Russell Haden. R. b. c. 2,640,000, w. b. c. 6400. Hbc. 70% (gasometric).

Color index 1.32. Volume index 1.41.

X-rays of the spine and head were practically negative.

A diagnostic analysis of this case might suggest either a functional nervous disorder, or some organic disease. The clinical observations determine definitely that we are confronted with an organic disease of the central nervous system, involving especially the spinal cord. The neurological syndrome may be expressed by the term, combined sclerosis of the spinal cord. The lumbar and sacral segments are involved more severely than higher levels. Conduction pathways in both posterior and lateral columns have marked degeneration. Some mild chronic pathological changes in the brain might be anticipated, but they are not so significant when identifying the trouble at hand.

The combined sclerosis of the cord, the gastric achylia and the blood picture with a particularly high volume index make the diagnosis of pernicious anemia certain in this patient.

We now have present a sacral decubitus and a cystitis with possibly some infection extending higher in the urinary system. Such terminal states are frequently encountered in serious paraplegias resulting from spinal cord disease. Thus we anticipate that

this patient will make an exitus shortly on account of the complications and a marked general lowered state of resistance.

Originally, pernicious anemia was designated as definitely a blood disease or one involving the haemopoietic organs. Today we recognize that three separate groups of symptoms may be manifested in the syndrome. (1) Gastric. Great diminution to a total loss of hydrochloric acid is the rule. Besides the pallor of the mucous surfaces of the mouth and the slightly yellowish tinge, there is frequently observed a significant, peculiar, glistening smooth surface on the tongue. (2) Blood. Frequently the erythrocytes are reduced from the normal 100% to 70% or less and even 25% at times. However, especially in the neural type, the number of reds may be in the neighborhood of normal. Poikilocytosis is frequently observed. Nucleated reds may be found. The hemoglobin is reduced often ranging from 70% to 30%.

The most characteristic blood findings are the high color index and volume index. Dr. Russell Haden has emphasized the greater importance of the volume index in contrast with the color index. (3) Neural. In the patient just demonstrated many of the characteristic cord changes are presented. Especially do we have evidence of lateral and posterior column degenerations. Frequently the term combined sclerosis of pernicious anemia is used. Especially do we find the degenerations of the crossed pyramidal, spino-cerebellar and tracts of Goll and Burdach. The short, association pathways are not involved usually. Occasionally in later stages or those with severe cord manifestations some anterior horn cell changes are observed. Neural hemorrhages and cavities have been described. The sclerosis is distinctly a non-inflammatory one. The parenchymatous elements may be replaced with neuroglia tissue. Some brain changes have been described. Our case presented a few cerebral manifestations. This was beautifully illustrated in a clinic on another case at Bell Memorial Hospital about three years ago.

The prognosis for pernicious anemia is recognized as being distinctly bad as far as its final termination is concerned. A comparatively few actual cures have been reported. Possibly some of these may be questioned. However, improvements or real remissions have been recorded frequently. A remission of one to three years is not uncommon. The outlook for the neural type is decidedly poorer than for the others. Possibly this is because early manifestations

in the nervous system are not recognized. The particular attention is given in the terminal stage.

There is some hesitancy regarding a discussion of the etiology. Certainly it is not settled. Several theories have been given in the past. Now there is a general feeling that it is not a primary blood disease. A toxemia, most likely originating in the intestinal tract, is receiving careful attention. A special lipid substance originating in the intestines has been described.

At the present time the state of our knowledge regarding the etiology leaves our treatment for the most part to be symptomatic. Intestinal therapy, sodium cacodylate, and blood transfusion are advocated. Blood transfusions in the neural type seldom produce favorable results. Rachicitis may yield some favorable results in a few cases where the spinal cord is involved.

The condition of the patient became gradually worse, and coma for thirty-six hours preceded death.

The splendid autopsy report by Dr. H. R. Wahl is abstracted as follows. Time forbids the complete report.

The body is that of a very anemic woman, well nourished, and has a slight yellowish saffron tint to the skin. Mucous membranes are unusually pale.

On the anterior side and 14 cm. above the distal termination of the spinal cord there is a depression in the dura measuring 7 by 16 mm. and 4 mm. deep. This depression is transmitted down into the substance of the cord but in dimensions not so sharply outlined at this time. The anterior longitudinal fissure appears displaced to the right and the declivity is slightly to the left of the midline. At the center of the declivity the cord measures 13 mm. in transverse diameter and 8 mm. in the anterior posterior diameter. 15 mm. below this measurement the cord measures 9 mm. in the transverse diameter and 8 mm. in its anterior posterior diameter. 15 mm. above the center of the declivity the cord measures 10 mm. transversely and 8 mm. in the anterior posterior dimension. The cord is quite firm in consistency. The body of the 8th or 9th thoracic vertebra presented on its posterior surface a bony protuberance projecting backward into the spinal cord 5 mm. The protuberance has a white color, is quite hard and is distinctly bony in consistency, suggesting an exostosis of the body of the 8th thoracic vertebra.

A section was removed from the bone marrow of the right femur. It was dis-



tingly red in color showing small islands of yellowish fat scattered diffusely through it, although the red bone marrow is distinctly in predominance.

**Gross Anatomic Diagnosis:** Patchy sclerotic changes in the spinal cord. Exostosis of the body of the 8th thoracic vertebra causing a corresponding depression in the spinal cord in this region. Replacement of the yellow marrow of the long bones by the red marrow. Arteriosclerotic nephritis with beginning chronic diffuse nephritis. Chronic splenitis. Arteriosclerosis.

**Historical Pathology:** The kidneys show considerable cloudy swelling. The bladder shows a thickened wall and its epithelium desquamated. The stomach presents marked desquamation of its surface epithelium, increase in fibrous tissue between the various glands, and the picture of a chronic inflammatory reaction. The spinal cord shows almost complete disintegration of the white matter, large vacuoles being very numerous. The anterior portion close to the anterior commissure particularly being affected, also the white matter along the posterior and lateral columns. In addition there are numerous peculiar homogenous purple and blue staining bodies scattered throughout the degenerated areas.

Neurological comment on the autopsy material will be brief. The correctness of the diagnosis of a pernicious anemia with a spinal cord sclerosis is established. The bony tumor of small size projecting into the spinal canal from the eighth dorsal vertebra, not determined during life, is of much interest. Physiologically this is of minor import. The neoplasm was too small to have produced a cord compression at the fifth to sixth dorsal cord segmental area. Again its nature indicates that it is many years old. In other words, it was present several years before there was any complaint of paraplegia, incoordination or sensory disturbance in the lower extremities. Spinal puncture indicated no block. Nevertheless, it is an interesting coincidence infrequently encountered in careful, complete autopsies.

—R—

### Emory University to Raise \$4,500,000 For Medical Education

Medical education is to receive a total of \$4,500,000 from the \$10,000,000 Expansion Fund now being raised by Emory University, Atlanta. This money will be distributed as follows Endowment for the School of Medicine, \$2,000,000; endowment for the Wesley Memorial Hospital, \$2,000,000; Pathology Laboratory and Hospital Ad-

ministration Building, \$225,000; Nurses' Home, \$200,000; completion of Chemistry Building, \$75,000. The goal of the campaign as a whole is to provide \$6,500,000 in endowment and \$3,500,000 in new buildings to cover the estimated needs of all six schools of the University for the next ten years.

The Emory School of Medicine, formerly the Atlanta Medical College, has long been one of the three largest and strongest A-grade medical colleges of the South. It has a total of 3,400 alumni now practicing in all states of the union but two. Dr. Russell H. Oppenheimer is dean of the faculty of 130 men, among the part-time members of which are some of Atlanta's most eminent physicians and surgeons.

For many years the school has been handicapped both in research and teaching work because of inadequate endowment. The enrollment in each class has been limited to sixty men at a time when more physicians of Georgia alone are dying each year than the two medical colleges of the state are graduating. The school is looking to its alumni and to the other friends of medical education to give the funds so urgently needed for expansion.

—R—

A bill has been introduced in Congress by Martin L. Davey, Congressman from Ohio, which will give the President blanket power for two years to reorganize the business structure of the government. In a circular letter to the press Congressman Davey says:

"For seven years, I have observed the Departments and Bureaus of the Government at Washington at close range, having had official business with nearly all of them. I am simply appalled at the loafing, indifference and inefficiency. There are thousands upon thousands of unnecessary employees and endless duplication of alleged effort. There is an inexcusable waste of much more than a half billion dollars a year."

That is what a great many people have long suspected, but it is rather unique to find a member of Congress willing to admit it.

—R—

Tests of vision were made in 2,044 children at Gary, Indiana, and of these more than one-third, 36.1 per cent, showed defective vision. In 108 cases, 5.3 per cent, the vision was seriously defective in both eyes. Of the whole number 2.4 per cent had cross eyes.

# THE JOURNAL

*of The*

## Kansas Medical Society

W. E. McVEY, M.D. - - Editor

ASSOCIATE EDITORS—SAM MURDOCK, L. B. SPAKE, P. S. MITCHELL, O. P. DAVIS, J. T. AXTELL, E. S. EDGERTON, E. G. MASON, J. D. RIDDELL, C. S. KENNEY, D. R. STONER, J. A. DILLON, W. F. FEE.

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### UNDESIRABLE LEGISLATION

In resuming the discussion of probable or possible legislation it may be timely to remind those of the profession who are particularly interested in this pastime, that it is quite as important to obstruct or prevent certain kinds of legislation as it is to secure new laws or the revision of old laws, and as a rule is much easier to accomplish. One of the difficulties is to learn when bills providing for undesirable legislation are introduced and to determine definitely the import of some of the bills that are apparently innocuous.

Heretofore the medical profession has usually been represented by one or more of its members in both houses of the legislature and it would seem that sufficient warning of pending unfavorable legislation might be expected. However, a few years ago when there were several of our members in the legislature, the medical practice act was completely and permanently dehorned. And no one seemed to become aware of the fact until long afterward.

There is always the suggestion that a lobbyist be employed. On several occasions more money was spent for lobbyists than the Society, with its meager income, could well afford, and with no definite purpose

and no tangible results. At any rate nothing was accomplished by the lobbyists that justified the expenditure, or that could not have been accomplished as well or better without their intervention. Lobbyists as a class are not very well received or very highly respected by our legislators, especially when they attempt to influence votes. About all that can be expected of a hired lobbyist is that he might keep our legislative committee posted as to the bills introduced and give the committee time and opportunity to make a campaign for or against them. This information might also be secured from some member of the legislature, or one of the newspaper reporters might be hired to supply it.

A much better plan would be to appoint all of the medical members of the legislature on our legislative committee and draft them into service for the benefit of the profession. These men are more capable and are in a better position than lobbyists would be to accomplish something definite. They should have the confidence and cooperation of the Society. They should be delegated by the Society to act for it in all matters of legislation that concern the medical profession. These men soon come to know the other legislators, to learn the temper of the men they are associated with, their ambitions, their prejudices and the influences most potent in their actions. They cannot always take advantage of such knowledge, however, or use it to any advantage. They are a good many of the members of the members of the legislature who feel only their responsibility to their constituents and are not easily influenced by the arguments of politicians or lobbyists, but advices from home have a convincing sound that is irresistible.

This is where the legislative committee might function to some purpose, and to function efficiently along this line is an undertaking of considerable magnitude. Some member of the committee will need to do quite a little work, for there will need to be known and kept on file for quick reference the antecedents of every member of the legislature, his political affiliations and



particularly his political friends, his promoters and supporters and their intimates—in fact every thing that might possibly have any bearing on his attitude toward any form of medical legislation. This committee must have some member of the Society in every county that will willingly and promptly respond to its call for assistance, usually some one other than the family physician of the legislator, for he might hesitate to use his influence in political matters lest he compromise his professional standing with the legislator or his family.

Having secured the cooperation of some member of the Society in every county where it is possible to do so the committee is prepared to do some effective work. When it is notified by its members in the legislature that a bill providing for unfavorable legislation has been introduced, this fact and full instructions may be sent promptly to the men who have been selected in each county and by them the necessary influences are put in operation. A plan of this kind means a complete organization and a lot of work.

Some who read this will promptly think of a score of reasons why it cannot be done and will spend some hours trying to think of others. A few will try to develop plans for doing something of the kind. It has been done and can be done again.

#### STATE MEDICINE

Public health activities have for many years been insidiously and persistently encroaching upon the practice of medicine. The boundaries, if there are any, are becoming more and more indistinguishable. Presumably the concern of the public health officer is for the public, while the concern of the medical practitioner is for the individual, but since the public is made up of individuals there must be more or less overlapping.

The original conception of the duties of a health department involved only the formulation and administration of sanitary regulations—the supervision of water supplies, sewage systems, and sewage disposal, stream pollution—and the control of epi-

demics. There was no question as to the propriety of the interference of municipal, state or national governments in matters of public sanitation. In the control of epidemics such interference was expedient because quarantine regulations were considered the most effective means for this purpose, and quarantine could only be effective when enforced by some one with authority delegated by a government.

It must be admitted that quarantine is an economic error, but until a few years ago it was the only efficient method we had for the control of epidemics. With more knowledge of the etiology of communicable diseases and more definite knowledge of the reaction of the tissues to infecting organisms, better and more certain methods of prevention are rapidly superseding quarantine regulations.

Granting that it is expedient that quarantine regulations be administered by government agencies, one may still raise the question if the more modern and more efficient methods of disease prevention require the intervention of government authority, or if such authority can be utilized in the application of these methods. At any rate it is a question about which there may be some differences of opinion. It has been suggested that when it has been shown that an individual may be made immune to a communicable disease, the responsibility for his protection has been shifted to himself. A city, through its health officer may isolate one who is afflicted with smallpox and all those who have been in contact with him, and it may place a quarantine upon its boundaries that will prevent the entrance or the exit of any one who has not been vaccinated against the disease; but it does not, and presumably cannot, expel one already within its boundaries or compel him to be vaccinated. Granting that individual immunization offers better and more economical protection to the public than quarantine, if our municipal, state or national governments cannot compel the individual to accept immunization, the fundamental reasons for their intervention are lacking.

From the viewpoint, however, that the

function of a public health department is to protect the public, without regard to the extent of its authority or the need for authority, the boundary lines between public health activities and the practice of medicine become very flexible and in time will reach the vanishing point. From this viewpoint it is the prerogative of a health department to offer free vaccination against smallpox and against typhoid fever, to offer free toxin-antitoxin and administer it, to make free Wassermann tests and, except for the popular sentiment, to administer antisyphilitic treatment.

There is no question but there would thus be afforded a more complete protection against communicable diseases than quarantine regulations, except for the fact that up to this time the individual cannot be compelled to be vaccinated, to permit the administration of toxin-antitoxin or submit to a Wassermann test. To have any disease he may have a fancy for and to eat any *solid* food he cares for are about the only personal privileges left to the individual, that have not been sacrificed to the good of the public. In fact, except for these, the identity of the individual has been officially lost in that great composite.

From the protection of the public against communicable diseases it is a short step to the protection of the public against economic loss from non-communicable diseases and this means state medicine in reality. What is left to the practice of medicine by the "guardians of the public health" will soon be taken away by the "guardians of the public wealth."

#### MEETING OF THE COUNCIL

Tre regular mid-winter meeting of the Council was held in Kansas City on January 19. The president, secretary, treasurer and nine councillors were present. The president discussed at some length the need for better organization and attempted to bring out suggestions from the councillors as to the best means for stimulating the society units that are now in existence and organizing other societies. It seemed to be

the consensus of opinion that at least twelve members were necessary for the maintenance of an active society, and that better results were shown by the multiple county societies than in the small single county organizations.

Conditions in some of the councillor districts were discussed and it was brought out that the western part of the state was very well organized in spite of the fact that many of the counties composing these districts had but one or two doctors. It seems to be pretty well established that the county unit is not a practical solution of the problem of organization in this state at least.

The question of medical legislation came up incidentally and a number of those present expressed themselves in favor of a single standard of qualifications for all those who may be licensed to practice the healing art. No action was taken, however, as to any proposed legislation.

Dr. Alfred O'Donnell of Ellsworth was elected to fill the vacancy in the eighth councillor district, occasioned by the untimely death of Dr. Riddell, until the next annual meeting of the Society. The editor of the Journal was reelected.

As a coincidence this meeting of the Council occurred on the same date that the Wyandotte County Society held its annual banquet, and the officers and members of the council were invited to attend. They were extended much courtesy, being given places of honor at the banquet table and introduced to the assembled hosts. Besides a very excellent dinner there was music and dancing and a variety of entertainment ending with the exhibition of a very interesting moving picture on the subject of tuberculosis.

#### DIRECTOR OF ATHLETICS EXONERATED

In the editorial column of the January number of the Journal there appeared an article under the title "A Builder of Men" at the University of Kansas." In this article reference was made to a pamphlet, rather widely circulated, in which the director of athletics at the University was made to endorse in rather emphatic terms



the methods of Osteopathy in the treatment of disease.

It is with much satisfaction and pleasure that the following letters are reproduced.

Lawrence, Kansas.  
January 27, 1926.

Dr. W. E. McVey,  
Editor, Kansas Medical Society Journal,  
Topeka, Kansas.

My attention was called to an editorial in the Journal of the Kansas Medical Society referring to a discussion of me in a pamphlet entitled "A Builder of Men."

May I state, that I made none of the statements that are attributed to me in that pamphlet. In fact, I did not even know that this pamphlet was to appear until I heard that it was being distributed here in Lawrence.

This pamphlet grossly misrepresents me and gives an entirely erroneous impression of my attitude toward the medical profession.

I regularly use a medical practitioner for my own family.

I deeply regret that this unfortunate circumstance should have occurred.

I have wired the publishers of this pamphlet as follows: "Your pamphlet entitled "A Builder of Men," written by David Lewis, attributes to me statements that I never made. It presents me in a light both false and injurious. I demand that you cease further publication and sale of this pamphlet. If you do not I shall seek legal redress. (Signed) Forest C. Allen."

Very Truly, Yours,  
FORREST C. ALLEN.

January 27, 1926.

Dr. W. E. McVey,  
Editor, Journal, Kansas Medical Society,  
Topeka, Kansas.

At the request of the Director of Athletics, Forrest C. Allen, of the University of Kansas, I am writing you to say that for the last seven years I have been team physician for all athletic teams at the University of Kansas. During this time all acute or serious injuries have been referred to me and have been handled by me, referred to a proper specialist or sent to the University Hospital.

In all such cases my judgment as to the proper treatment has been invariably followed without question.

It has been my observation during this time, that the Director of Athletics concerns himself with administration of his

department or coaching a team and that the care of the athletes is left for the team physician or the team's trainer.

I have in addition to acting as the team physician, frequently been called to treat members of the family of Director Allen. In fact there is no member of his family that I have not been called to treat.

Yours paternally,  
A. J. ANDERSON, M.D.

January 27, 1926.

Dr. W. E. McVey,  
Editor, Journal, Kansas Medical Society,  
Topeka, Kansas.

In explanation of the relationship existing between Director F. C. Allen and myself, I wish to say that all examinations of entering students at the University of Kansas are made by myself or under my direction. Whenever necessary I prescribe appropriate exercises and remedial measures.

All cases recommended by physicians or parents concerning exemptions from physical exercises are referred to me and my suggestions followed.

All classes in Hygiene are conducted under my supervision.

Our relations here have at all times been most harmonious and cordial.

Most sincerely yours,  
JAMES NAISMITH, M. D.

This letter from the director of athletics of the University, denying that he gave permission to the publishers, or had any knowledge of the publication of this pamphlet, and repudiating the statements attributed to him; together with the statements from Dr. Naismith and Dr. Anderson, seems quite sufficient to exonerate him from any intentional participation in the advertising propaganda for osteopathy. It also seems to show conclusively that he not only does not have the confidence in osteopathic methods he is represented to have by the author of the article, but that he refers all the men under his charge to doctors of medicine when they require attention, and further that he regularly employs a doctor of medicine for all the members of his own family.

Whatever may have been his motive or his purpose in taking a course in osteopathy, he made no pretense to practice it. One can imagine his humiliation in being

even incidentally associated with a cult that found it necessary to resort to false propaganda, made up of untruths and total misrepresentations, to gain the confidence of the most credulous of all people, the sick and suffering.

### —R— CHIPS

Synthetic white of egg is now made of beef serum. The claim is made that it serves the same purpose as that the biddies make.

The thought projector is the name given to the man of vision. The man who can look ahead of the procession and visualize what the mass of men can't see. The old name was imagination.

Josh said that success does not depend upon "makin' no mistakes but in not makin' the same mistake twist."

Dr. Bellet, of the French Navy, considers lanolin the best dressing for extensive burns. The surface is cleansed with water or weak permanganate solution, blisters are opened, dead tissue cut away, washed with normal saline and dried with sterile gauze. Compresses soaked with sterile lanolin with 20 per cent vaseline are applied. At every dressing most careful aseptic technic is observed.

McHargue concludes from his observations that copper is a necessary constituent of the blood of all animal life and that it probably performs important functions in the absorption and transfer of oxygen in the respiratory process. It is found in greater concentration in the fetuses of mammals and this he regards as strong evidence that it performs important functions during the development of the embryo and in the early stages of growth after birth.

Powers believes that many of the disagreeable effects of coffee drinking usually ascribed to caffeine are really due to some of the volatile substances that give the aroma to the finest grades. The syndrome of coffee consists of vertigo, headache, scotoma and nervous irritability. If the finer grades of coffee contain more of these toxic volatile substances, then the cheap coffee should be the least poisonous.

Cancer of the breast should be manipulated as little as possible for it is likely to produce premature metastasis, says Dr. Burton T. Simpson. He suggests that considering the fact that cancer of the breast is discernible early, is easily accessible and

susceptible to complete removal, it ought to be one of the most favorable types of cancer for cure, but the fact is that the mortality from cancer of the breast is second only to that of cancer of the uterus in the female. He thinks this high mortality is due to the premature metastasis established by massage. It has been shown that in breast cancer of white mice, early metastasis can be produced by massage.

Benon has suggested that intellectual enfeeblement is not necessarily a feature of dementia precox, but emotional indifference is extremely marked, though at intervals there are violent impulsive reactions. Dementia precox may appear in the form of stupidity, with catatonia, mania and as delirium, but he does not believe it should be classed as a dementia.

The basic etiology of exophthalmic goiter has finally been determined. A recent writer states it something like this: "Exophthalmic goiter is an aggravated form of anxiety neurosis, a structuralized fear at the symbolic level, caused by a particular pathogenic situation in the form of repression of father impregnation phantasies plus autoeroticism and active sexual repression—a mechanism expressing itself in the thyrotropic individual through the thyroid segment because of its phylogenetic history and relations, which accounts for the fact that 15 females to one male are affected by this disease syndrome, the case in the male, possibly, being an instance of early pathogenetic inversion or distortion involving the same mechanism."

The relation between syphilis and cardiac disease was discussed at the recent sessions of the Imperial Social Hygiene Congress (British) by Colonel Sir Leonard Rogers, representing the Government of India. He said that practically the whole of heart disease in India was due to syphilis and concluded that the eradication of it would reduce heart trouble there to negligible proportions.

In this connection it might be observed that India is not alone in recognizing the great socio-economic problem of controlling syphilis. The United States Public Health Service has recently issued a compilation of abstracts relating to visceral syphilis for use in its cooperative work with the State departments of health in the control of venereal diseases. These abstracts reflect the causative influence of syphilis in diseases of the heart, aorta and peripheral blood vessels. Special attention is being given in



all countries to the prevention of these diseases by prompt adequate treatment in the early stages of syphilis before the heart and blood vessels become involved.

—R—  
Minutes of Council Meeting

Annual mid-winter meeting of the Council was held in Kansas City, Kansas, Tuesday, Jan. 19th, on the twelfth floor of the Elks building. Meeting was called to order at 10:30 by Dr. O. P. Davis, who acted as chairman owing to the late arrival of the president, Dr. F. A. Carmichael. Those present: Dr. F. A. Carmichael, Dr. Geb. M. Gray, treasurer; Dr. J. F. Hassig, secretary, and the following Councilors: Dr. S. Murdock, Jr., Dr. L. B. Spake, Dr. P. S. Mitchell, Dr. O. P. Davis, Dr. J. T. Axtell, Dr. C. S. Kenney, Dr. D. R. Stoner, Dr. J. A. Dillon, Dr. W. F. Fee, and Dr. W. E. McVey, editor of the Journal.

It was definitely decided that the 60th annual meeting of the Society, which is to be held in Kansas City, Kansas, would be a three-day meeting, May 4, 5 and 6. Secretary was instructed to prepare the program from our membership and in addition, secure not less than three nor more than six doctors of national reputation, and if possible have papers by them on the following subjects: Obstetrics, Internal Medicine, Surgery, Orthopedics, Dermatology and Radiology and also a speaker from the American Medical Association on some health subject.

A proposed change to a uniform constitution and by-laws for all state societies submitted by the American Medical Association was postponed until the annual meeting for consideration before the House of Delegates.

Proposed national traffic laws, allowing special privileges to doctors, as submitted by the Medical Society of the District of Columbia, was also postponed for final action in the House of Delegates.

Dr. Carmichael told of his efforts since being president, how he had written to the presidents and secretaries of all county societies and each councilor, urging greater activity in medical society affairs. He thought many of the county societies and most of the councilor's districts were functioning well; however, improvements could be made in each.

The Councilors present made a verbal report on their districts and the societies in most of the districts are active.

Dr. Alfred O'Donnell, Ellsworth, was appointed to act as Councilor for the 8th Dis-

trict until the annual meeting to fill the vacancy caused by the death of Dr. J. D. Riddell, Salina.

A secretaries meeting will be held as usual, sometime during the annual session.

Dr. W. E. McVey was unanimously elected Editor of the Journal for the ensuing year.

The Secretary's expense account, \$687.83 incurred since May 7th, which included stenographer's salary, stamps and supplies, was allowed.

It was decided to hold the meeting of the House of Delegates on the evening of the first day of the annual meeting, and the Council will hold its meeting at noon on the first day.

Meeting adjourned.

J. F. Hassig, Secretary.

—R—  
Pick Ups and Comments

BY THE PRODIGAL

An absent cause of disease—that of the ultra violet ray in rickets.

Cosmetic fever is contagious. It is transmitted by coaptating the lips of the opposite sex, in osculation.

Chromatic therapeutics is now recognized as a remedy in the cure of certain diseases, notably rickets in children.

Sleep is a form or kind of intoxication. The antidote for the poison is more sleep. Such is proof of the old adage, the hair of the dog will cure the bite.

"Mammals are classified as man and the lower animals. Who does the classifying?"

Synthetic wool is now made from wood fibre. This is a slam at the sheep by the chemist.

Radium poisoning is being tabulated in vital statistics. Seven of the employees of the United States Radium Corporation of Orange have died during the past three years from poisoning attributed to radioactive substances. It causes chronic pernicious anemia, due to the injection of radio-active substances, mesothorium and radium and their decayed or broken up products.

Injection of medicinal agents into the blood stream, when indicated, is rational treatment. But it seemingly has become a fad. It is being overworked. And the physician with his ear to the grass roots can hear the murmurings of the laity; and if

more discretion is not exercised by the regular medical profession in the indiscriminate injection of extraneous substances into the blood vessels, the reaction will retard its merit in the cure of disease. It will meet the same fate and have the same fight to win that other methods of treating disease successfully have had and are having. Not by the use but by the abuse of the method-fadism.

### COSMIC

Robert Milliken, my neighbor and fellow church worker (Unitarian) and one of the greatest scientists in the world, has discovered the Cosmic wave. Sir Oliver Lodge has discovered the cosmic unit. The former discovery (as we grasp it) refers to attenuated ethereal waves made of broken up and disorganized protons that are dove-tailed into what the Book of Genesis tells us the world was made up of, viz., "void and nothingness." Such is the makeup of so-called inanimate matter.

Sir Oliver in detecting the cosmic unit is able to synthesize or construct animate matter—life—out of these attenuated breathings of cosmos, by energizing them with potentiality. This explanation will clear up all doubts of the reader respecting his origin. But I am in a class with Hooligan who when listening to a lecture on philosophy, said, "Yes sor, I understand him but I don't know what he is talkin' about."

The Chromatic doctor has put in an appearance. He treats disease by the different hues and shades of color. He has evolved the color system of treatment of disease in the animal by studying the action of light and shades on vegetable growths. There is truth in the claim that varied shades in colors affect persons differently. Some colors are soft and soothing while other colors are harsh, offensive and make one feel nervous.

But to claim as Lord Clifford of Chudleigh does, "that every disease can be cured by certain colors," outclassed the Chiropractor and the great mass of Ishmaelites. Yellow, Chudleigh says, is the nerve restorer and soother. This may be the reason the army doctor wears a yellow band on the shoulder and arm of his coat. Yellow being an evener to keep his nerves in balance. Green increases the vitality—due probably to the cosmic vitamins systematically arranged, thus impinging on the sight center harmoniously. Red is the most effectual color in all cases of blood poisoning, thus proving *similia similibus curantur*, and so on all down the line.

The chromatic specialist is told that he must take great care that only the right shade of each color is used or opposite results may be obtained. Such talk, the conservative says, is radical. But we should remember that the word radical means root—a fundamental or basic principle. In chemistry, "a fundamental constituent of a compound." Hence we need the radical as a foundation to build upon. He is the thought projector. But usually he has not a lick of sense in building up a structure that is practical for his energy is all dissipated, used up in projecting. It takes the average men, the plodder to sift out, to classify, to arrange, to prove the merit of the suggestion before it can be applied practically and its limit outlined and its worth established as a worth while therapeutic agent to be used in the prevention and cure of disease.

A symposium on cancer was conducted at Yale University, New Haven, Conn., recently by the American Society of Zoologists. They fixed the genesis of cancer. Their conclusions were: First, that cancer is not contagious. Second, that cancer is hereditary. The findings of the society may not be conclusive in fact, but when such a man as Dr. James D. Murphy of the Rockefeller Institute for Medical Research makes such a statement, and he is supported in his findings by L. C. Strong of the Bussey Institute, Harvard University, it gives food for thought on the subject of cancer. Medical men believe there is a diathesis, dyscrasia or pre-disposition to certain diseases in the human animal. Heredity plays the leading role up or down the scale in the brute animal. It is not reasonable to believe that nature follows the same plan in manipulating when stepping up the human.

Be it heredity or predisposition, the duty and responsibility of the medical profession to the laity is practically the same. For the cause for predisposition to fructify is omnipresent. Hence it is the duty of the physician to say, when asked his advice by persons contemplating marriage into a family where such predisposition is markedly in evidence.—Don't marry into such a family. Of them all, the doctor is the most sympathetic. Not the maudlin, wishy washy, sissy brand, but in the broad humane sense. His one weakness and besetting sin is in his sympathetic failure and weakening for the unfortunate one at a critical time, to prevent and protect the future generation. Sympathetic advice that



his reason and judgment, founded on knowledge, disapprove. A world without sympathy would be hades let loose, but sympathy run riot would be little if any better.

Common sense urges the physician to advise, when asked by a young man or woman, do not marry into a tuberculosus family, or one afflicted with a questionable incurable disease, or of degenerates or monstrosities and other faulty dyscrasies that might be mentioned. But if you do marry, be sterilized before you marry. Radical? Yes. But the radical is the root. Destroy the root with its tendrils or prevent its transplantation and it will not grow.

The specialist antedates antiquity. But the medical man did not get the hunch until later, when he began to measure time. The root or origin of specialism was learned from the bacillus or germ. The invasion of the human body by bacteria depends upon the taste of the germ, or the road it prefers to travel, and the work or specialty it thinks it likes or is best fitted to manipulate. For example the amoeba, bacillus typhosis and para-typhoid prefer the intestine and specialize in it. While the streptococcus, staphylococcus, anthrax, etc., attack the skin and other differentiated tissue structures where they feel more at home and are fitted for the work in hand.

All a doctor has to do is to ingratiate himself into nature's confidence to get the facts in specialism.

## —R— SOCIETIES

### LABETTE COUNTY SOCIETY

The Labette County Medical Society held its annual meeting at Parsons on December 23, at 6 o'clock p. m., at Mercy Hospital, where dinner was served by the Sisters.

Dr. E. L. Boardman, retiring president, gave an interesting review of the proceedings of the Society for the past year. Dr. J. H. Henson of Mound Valley, gave an interesting talk on caustics. Dr. R. H. Urie of Parsons discussed the reduction of the narcotic license fees and the bill now before congress. Dr. O. E. Stevenson made some timely suggestions on the county society and its program for 1926.

The following officers were elected for 1926: Dr. O. H. Ball, Dennis, president; C. S. McGinnis, Parsons, vice-president; J. T. Naramore, Parsons, secretary; M. C. Ruble, T. D. Blasdel, N. C. Morrow, censors; C. N. Petty, Altamont, delegate; O. E. Stevenson, Oswego, alternate.

The Society has had a very prosperous year and the members have enjoyed the programs, especially the lectures by members of the faculty of the University of Kansas School of Medicine.

J. T. Naramore, Secretary.

### ELK COUNTY SOCIETY

The Elk County Medical Society met at the home of Dr. R. C. Harner, and elected officers for 1926. The following officers were elected:

President—Dr. R. C. Harner, Howard.

Secretary-Treasurer—Dr. F. L. DePew, Howard.

Delegate—Dr. F. K. Day, Lington.

Alternate Delegate—R. C. Hutchison, Elk Falls.

Censors—Dr. R. C. Hutchison, Elk Falls; Dr. E. A. Marrs, Sedan; Dr. C. E. Shaffer, Moline.

The next meeting will be held at Elk Falls, in April. Mrs. Harner served doughnuts and coffee to the members of the society after the meeting.

F. L. DePew, Sec'y.

### THE SMITH COUNTY MEDICAL SOCIETY

The Smith County Medical Society met at the Erdman Hotel at Smith Center, on Monday evening, January 4th, where a splendid dinner was furnished by the medical men of Smith Center. After the dinner the society went in a body to the Community Hall, where the meeting was called to order by the Secretary, in the absence of the President.

To comply with the increase in the dues of the State Society, it was decided to raise the County dues from \$3.50 to \$6.00.

The program of the evening consisted of the study of Pneumonia, with the following papers:

Anatomy and Histology of the

Lung ..... Dr. H. Haerle.

Physiology of the Lung. . Dr. F. H. Relihan.

Pothology of the Lung in

Pneumonia ..... Dr. H. Morrison.

Diagnosis of

Pneumonia.....Dr. E. W. Tallman.

Complications of

Pneumonia.....Dr. C. C. Funk.

Sequelae of Pneumonia . . . . . Dr. Jeffers

Treatment of Pneumonia . . Dr. O. C. Reed

The papers were freely discussed by all present, after the discussions we adjourned, to meet the first Monday evening in February.

Henry Haerle, Secretary.

### Medical School Notes

Dr. C. S. Kinney of Norton, Kans., lectured to the students on Tuberculosis recently.

Dean H. R. Wahl read a paper before the Kansas Society for Crippled Children at Wichita on January 15th.

Dr. Paul Gempel of Leavenworth, a former student at the University of Kansas School of Medicine, and who has been doing post-graduate work in Gynecology and Obstetrics for the past four years, was a recent visitor.

Thirty-five students are expected for the spring term which starts January 28th.

Dr. O. S. Gilliland was recently elected secretary of the Jackson County Medical Society, which has just moved to its new location in the Medical Arts Building at 34th and Broadway, where the Jackson County Library is now located.

The following members of the Staff and Alumni have recently moved into the Medical Arts Building: Dr. R. H. Major, Dr. H. L. Dwyer, Dr. F. C. Neff, Dr. H. F. Van Orden, Dr. R. D. Irland, Dr. Paul F. Stookey, and Dr. Sam Snider.

Dr. R. M. Isenberger, Associate Professor of Pharmacology, will be located at the Medical School for the remainder of the term.

Dr. P. C. White, of Tulsa, has been a visitor at the Medical School, as the guest of Dr. E. J. Curran, Professor of Ophthalmology.

### PERSONALS

Dr. M. S. Gregory, who was formerly located at Dighton, Kansas, spent the summer in Neurological Institute in New York, and has now located in Oklahoma, City.

O. H. Gerry, president of the O. H. Gerry Optical Company, a veteran in the business and founder of the company, died December 23. It is announced that the business will be conducted as before and the same policies will be continued. Only prescriptions for lenses from graduates in medicine will be filled by this company.

Dr. C. M. Vermillion, formerly at Tescott, Kansas, has purchased the office equipment of Dr. A. L. Cludas at Minneapolis, Kansas, and is now located there.

Dr. A. Beese, who formerly practiced at

Newton, has located at Coffeyville where he has offices with Dr. F. L. Flack.

A news item from Quinter states that Dr. James W. Wheeler will locate there. Dr. Wheeler is finishing an internship in the General Hospital at Cincinnati, Ohio.

Dr. B. P. Stephens, for several years on the staff of Concordia Hospital, has accepted a fellowship in the Mayo Clinic and has gone to Rochester.

### DEATHS

Dr. John DeWitt Riddell, Salina, Kansas, age 57, died suddenly in the hospital after finishing an operation. He graduated from the Kansas City Medical College in 1896. Was a member of the Council of the Kansas Medical Society.

William Edward Staggs, Merriam, Kansas, age 51, died suddenly December 9, 1925. He was graduated from the College of Physicians and Surgeons, Medical Department of Kansas City University, Kansas City, Mo., 1902.

Robert S. Simpson, McPherson, Kansas, died Jan. 2, 1926. He was graduated from the University of Michigan Medical School in 1867.

Samuel H. Braden, Elsmore, Kansas, age 70, died Nov. 28, 1925. He was graduated from the College of Physicians and Surgeons, Keokuk, Iowa, in 1886.

### KANSAS MEDICAL LABORATORY ASSOCIATION

#### Testing Chickens for Bacillary White Diarrhea

L. D. BUSHNELL

Bacteriology Department, K. S. A. C.

#### INTRODUCTION

Bacillary white diarrhea is an infectious disease of domestic fowls. The organism causing this disease was first described by Rettger and named *Bact. pullorum*. The more recent nomenclature accepted by the Society of American Bacteriologists is *Salmonella pullora*. The disease passes in a cycle from the adult bird through the egg to the chick. This newly hatched chick passes the infectious material to other healthy chicks through its intestinal excreta. Many of the chicks which do not die early become chronic carriers of the organism in their ovaries later in life. These carriers lay infected eggs which hatch chicks



which later may become carriers. To break this cycle the agglutination test has been introduced in order to determine which hens are carriers so that they may be removed from the flock.

This is one of the most destructive diseases confronting the poultrymen of today and it is so generally distributed over the state that it will soon become necessary to take vigorous steps for its control. Since no other method of control is so effective as testing for and removing reactors from the flock it will be necessary for the laboratory workers of the state to become familiar with the test and be in position to aid the local community in its eradication.

#### THE ANTIGEN

In this laboratory we are using an antigen made of 8 strains of *S. pullora*; three from chicks, three from infected ova of adult birds and two from dead embryos. These strains are all carefully tested against known positive serum. The cultures are grown on chicken infusion agar of pH 7.2 for 48 to 72 hours, and washed from the agar with salt solution containing 0.5 percent phenol. The test fluid is stored in the ice box in concentrated condition. Before use this is diluted to slightly less than the number one tube on a McFarland nephelometer with physiological salt solution made by using double distilled water, 0.85 percent c. p. sodium chloride. Enough pure phenol is added after diluting to make a 0.2 percent mixture.

Considerable care should be used in controlling the phenol content of the antigen. If 0.5 percent is used there is very likely to be a heavy precipitate of flaky material thrown out of the serum. (This has been described as fat but may be something else.) For these reasons we recommend 0.2 percent phenol.

#### MAKING THE TEST

At the present time there are numerous methods of making this test. These may be divided into the one-tube and two-tube dilution methods. The one-tube method requires but one tube containing antigen. To this is added enough serum to make a 1-10, 1-50, 1-100, etc. dilutions as desired. The two-tube method requires two different dilutions.

By a comparison of results obtained from nearly 10,000 tests we have concluded that two dilutions are more accurate in determining reactors than is the one dilution method.

To save as much time as possible we have

developed a method of making dilutions in the antigen itself, as follows:

Tube No. 1		Tube No. 2	
1:20 dilution		1:80 dilution	
Antigen	3.00 cc.	1.50 cc. antigen	
Serum	0.15 cc.	0.50 from tube No. 1	

The tubes we have found most satisfactory for this test are 12 mm. x 75 mm. These are placed in wooden blocks having four rows of holes. The outside tube is numbered with a wax pencil.

The antigen is placed in the tubes by use of a graduated burette having the 1.5 and 3 cc. spaces marked by red and black lines. The burette is so arranged to fill by gravity. (The antigen should always be filtered before placing in the tubes). When not in use the burette is kept filled with 0.5 percent phenol and thoroughly rinsed before using.

There is not enough agglutinin absorption in ten minutes in the first tube to alter the accuracy of the test, while in making the test the contact in the first tube is but a few seconds. The speed of making the test is increased by using a rubber bulb on the pipette instead of drawing the material into the pipette by mouth suction. A pipette graduated to deliver 0.15 cc. and 0.5 cc. is used for making these dilutions. The serum-antigen mixture is agitated thoroughly by drawing in and out of the pipette before transferring to the second tube. The difference in volume between the two tubes does not appear to make any appreciable difference in reading the tests.

The tests are incubated at 37°C. for 20 hours and at room or ice box temperature for 4 hours and readings taken. All doubtful reactions are kept for an additional 24 hours at room temperature and re-read. The agglutination reaction in this test is exactly the same as the macroscopic agglutination test of suspected typhoid and paratyphoid cases. If the test is positive there is a thin irregular sediment on the bottom of the tube and the supernatant liquid is clear. If it is negative the liquid is still milky and the sediment is in a uniform mass in the center of the bottom of the tube. On shaking the agglutinated cells remain in small clumps while the cells which have merely settled to the bottom again go into uniform suspension. In some cases there are traces of agglutination and these are marked, one, two or three plus. The four plus is complete agglutination. From our experience we have concluded that anything above a two plus in the 1:20 dilution may be considered

as a reactor and should be removed from the flock.

The Department of Bacteriology has established a charge of 10 cents per test. If the one doing the work can be kept busy this is slightly less than the cost. The cost of making the test will depend largely upon the speed attained.

#### COLLECTING BLOOD SAMPLES

The following is a description of the method of procedure for collecting blood samples:

*Equipment*—The following special articles of equipment are necessary for drawing blood for the tests:

1. Small sharp-pointed scalpel or knife.
2. Legbands for each fowl to be tested.
3. One or two dram homeopathic, or shell vials, for collecting samples. Two dram vials are preferred.
4. Corks to fit, and labels for marking.
5. Disinfectant for rinsing off knife after each bird is bled.

6. Clean towel, piece of cloth or piece of cotton for cleaning instruments before proceeding with the next bird.

*Procedure*—1. Catch each bird and mark with legband bearing a number.

2. Hold the fowl in a convenient position to permit spreading of one wing and exposure of the wing veins. A good way to do this is to hold the bird against the left side of the body and use the left hand to spread the right wing full width and in a vertical position.

3. Pull a few feathers in the region of the first wing joint to expose the skin over the vein. (It is not necessary to disinfect the area.)

4. Puncture the vein with a quick movement of some sharp instrument. (The cut should be lengthwise and not across the vein.)

5. Collect the blood immediately in the vial. *Fill at least one-half full.* Cork tightly and label with the legband number. An indelible pencil is more efficient for this than a fountain pen, since the ink may blur. *Be sure to write figures plainly and correctly.*

6. Place the vial flat on its side and allow the blood to clot.

7. Press the vein tightly with the fingers or pull a few of the downy feathers and pack them over the wound if bleeding does not stop immediately.

8. Store the vials in a cool place such as a refrigerator, *but do not allow the blood to freeze.*

*Precautions*—1. Withhold food for 18 to 36 hours before bleeding.

2. Use clean dry sterile vials for collecting blood. (Sterilize by placing both corks and vials in boiling water for 10 minutes. Dry in a hot oven.)

3. Have the skin dry at the time of taking the blood.

4. Wipe the scalpel knife thoroughly after each sample is taken.

5. Do not place blood samples in the sun. They must be kept cool to prevent spoilage.

6. Do not allow blood to freeze. It is better not to bleed in freezing weather. Frozen blood hemolyzes and cannot be used for the test.

7. Do not let water come in contact with the blood. It has the same effect as freezing.

8. Avoid the use of disinfectants for preservation of the blood. (If blood is to be shipped or collected during hot weather two drops of a 5% solution of boric acid dissolved in physiological salt solution may be placed in each bottle and allowed to dry in the bottom. This will preserve the blood for some time and does not appear to affect the test.)

9. Collect plenty of blood.

10 Ship samples immediately after collection.

#### Acetone Bodies in the Urine

E. R. LEHNHERR

(From the Department of Bio-Chemistry, University of Kansas, Lawrence)

Acetone bodies appear in the urine in a variety of conditions. In cases where diets containing insufficient amount of carbohydrates are ingested, or where there exists a decreased power of the body to make use of the carbohydrates already on hand, acetone will invariably be found to be present in the urine. It is very probable, then, that the faulty catabolism of the fat used in making up the full quota of calories, is the source of aceto-acetic acid and acetone.

Acetone may be found in traces in normal urine, but the amount may be so increased, in pathogenical cases, that it is first detected by its odor. These two substances are very closely related and their clinical significance is the same, aceto-acetic acid never occurring without acetone, although the latter may occur in the absence of aceto-acetic acid.

The Rothera and Taylor procedures have been the most successful nitroprusside tests that we have used in the laboratory. These are not specific for acetone, in fact they are possibly more sensitive to aceto-acetic acid.



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However, this does not alter the significance attached to the findings. Rothera's test seems to be nearly twice as sensitive as Taylor's.

The tests may be carried out directly on the urine or on part of distillate obtained from it. The use of the distillate increases the value of the tests. A very simple form of apparatus may be fashioned after that of Folin's used in the determination of urea in blood; with a small length of tube (preferably eight or ten inches long) leading from the test tube, containing the urine, horizontally to the bend that dips into the tube containing 2 or 3 cc. of distilled water. A wet towel wrapped around the horizontal part of the tube increases the efficiency of the set-up. To the urine to be distilled (about 50 cc.) is added a couple drops of dilute acid ( $\text{HCl}$  or  $\text{H}_2\text{SO}_4$ ) and a drop of petrolatum oil. The heating should be continued for 2 or 3 minutes using a micro burner and being careful not to allow the changing volume of the boiling urine to draw the distillate back to the distilling tube, nor to boil any of the urine mixture into the receiving tube. The nitroprusside tests may be carried out on this distillate with better success than directly on the urine.

#### ROTHERA'S TEST

Saturate 5 cc. of urine or distillate with ammonium sulphate (about as much salt as can be had on the end of a spatula.), add  $\frac{1}{2}$  cc of 5% of sodium-nitroprusside, and add 2 cc of strong ammonia water. A permanganate color will appear in a few moments if either acetone or diacetic acid is present in more than slight traces. We have found this test to give good results with one part acetone in seven thousand.

#### TAYLOR'S TEST

Acidify 5 cc of urine (or distillate) with two drops of acetic acid and add  $\frac{1}{2}$  cc of 5% sodium-nitroprusside. Stratify with ammonia. A sharp purple ring will appear immediately if aceto-acetic acid is present; a heavier one appearing after a few minutes indicates acetone.

#### SCOTT-WILSON

This is not a nitro-prusside test, but it has been proved to be the most sensitive and specific test for acetone that our laboratory has used. The test must be carried out with proper precautions and controls in order to make it useful. It detects minute traces of acetone so small that other tests do not show its presence at all.

It is performed by acidifying about 10

cc of urine with dilute sulphuric or hydrochloric acid, heating this tube in warm water and aspirating the acetone over into a tube containing a quantity of Scott-Wilson reagent (about 5 cc). Before running the above tests wash the apparatus thoroughly with distilled water. Place distilled water in a tube and aspirate into a quantity of the Scott-Wilson reagent as in the regular procedure. This control serves to detect any acetone in the apparatus or in the breath, if alveolar air is used in the procedure.

#### QUESTIONS AND ANSWERS

Q. What is the Kahn test? K——.

Ans. The Kahn test is used as an aid in diagnosing syphilis. It has recently replaced the Wassermann in the Michigan State Board of Health Laboratory. In performing the test one mixes a small amount of a diluted alcoholic extract of beef heart with a measured amount of the patient's blood serum. Positive reactions are indicated by formation of a visible precipitate. If proper dilutions of the extract (antigen) are used under the conditions of the tests, no precipitate is formed in the serum from normal individuals.

—R——

#### Mercury As a Spirocheticide

It has long been the unique distinction of the arsphenamines (606 and its successors) that in non-toxic doses they were capable of acting as spirocheticides, whereas mercury has always been given in subcurative doses because of its comparative toxicity. Now the claim is made that the organic mercury compound, Mercurosal, is spirocheticidal in non-toxic doses.

Based on animal tests in cases of syphilis artificially induced, the spirocheticidal dose of Mercurosal for a luetic patient has been fixed at 3.5 milligrams per kilo of body-weight, the injections (intravenous) being repeated at intervals of three days until ten are given. A 70-kilo patient would therefore receive 245 milligrams (0.25 grams) at a dose; but it is advised that smaller doses be given at first to test the patient's sensitiveness toward mercury.

The manufacturers, Parke, Davis & Co., put out an intravenous dose of 0.1 gram, and in addition a 50-cc rubber-diaphragmed bottle containing in each cubic centimeter 0.025 gram of Mercurosal, or 0.25 gram in 10 cc. It is claimed that, with caution, the dose can be built up by degrees to this figure, or, if doses of 0.2 gram or less are preferred, the injections can be given at two-day intervals. Mercurosal is said to



be harmless to the vein; and this being so, the intravenous method of administration is, of course, the ideal one. See Parke, Davis & Co.'s advertisement on Mercurosal in this issue.

—R—

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### Malignant Cystic Ovarian Tumors

JNO. L. GROVE, M.D., Newton.

Read at Annual Meeting of the Kansas Medical Society, Topeka, May 6-7, 1925

#### CASE REPORTS

Before presenting a short review of three interesting cases of ovarian cysts of malignant character, I want to show half a dozen lantern slides giving micro-photographs of the tissue as well as the gross pathology which was similar in our three cases.

1st. The gross pathology in this case I shall recite with the history, suffice to say the tumor was multilocular, about the size of a basket ball, containing the contents characteristic of a dermoid with the nodular masses in the lining wall of both the mother and daughter cysts.\*

(1) This slide shows a great variety of tissue, embryonic in character, groups of epithelial cells, cartilage and glandular tissues.

(2) Here again are the characteristic grouping of epithelial cells in disorderly growth and location, embryonic in character.

(3) Again definite areas of embryonic structure, adenomatous in character with flat epithelial cells suggestive of malignancy.

(1) Photograph of cyst with papillomatous growths scattered over inner wall. These varying in size from small glistening speck to as large as a walnut.

(3) Here is the typical grouping of embryonic type with wild arrangement of epithelial cells.

(3) Again conglomerate grouping of embryonic tissue.

(1) Gross tumor.

(2) Tumor opened showing papillomatous growths.

(3) Micro-photographs.

Case No. 1. Female, age 30, who had been married five years, and had never been pregnant. Nothing important in her past history, not excepting her menstrual

history which had been regular since sixteen years of age, usually somewhat painful but in the past two years had been less painful than previously. A little greater amount of flow during the past several years but nothing alarming or no change that required any medical consultation. The last two periods prior to this examination were at three week intervals and were five day periods. Patient had had her tonsils removed seven years ago.

Her present complaint consisted of merely a feeling of weight and heaviness in the abdomen and pelvis, some little bladder disturbance although no distinct cystitis, some little difficulty in emptying the bowel, and an irritating cough. She reported having an attack of rather distinct hard pain six months previous, which however, had not been severe enough to require a physician's attention. During the past two months the abdomen had enlarged rapidly, especially in the right inguinal region. She had thought possibly she might have a hernia and reassured herself that the enlargement of the abdomen was only the result of quite strenuous physical exercises in which she had indulged, while attempting to strengthen her abdominal muscles. Her weight had possibly decreased a few pounds in the last three months.

A general physical examination showed nothing of importance except in the abdomen which was extremely full, with a distinct palpable mass extending four inches above the navel on the right side and about to the line of the navel across the abdomen on the left. This mass was very solid and irregular in outline. Bi-manual examination showed the pelvis tightly filled with an irregular tumor mass which was not movable. The uterus seemed to be separate from the mass. The mass, however, was not fluctuating and seemed entirely too fixed for an ordinary cystic tumor. The laboratory findings showed the urine of very low specific gravity, no albumin, sugar or casts. Hemoglobin 85 per cent, leukocyte count 13,000, blood pressure 120-70. A preliminary diagnosis of cystic tumor, (first) and fibroid, (second) was made.

The operative findings were as follows: A median incision was made up to and two

\* As copies of these slides were not furnished with the manuscript we are unable to reproduce them. (Editor).

inches beyond the navel. The parietal peritoneum and omentum were matted together and a dozen or more nodular masses averaging about the size of hazel nuts were seen engrafted in the peritoneal wall. These were hard fibrous non-bleeding tumors. The intestines were matted to a thick wall tumor mass and in loosening this mass on the left side a cyst was ruptured and about a pint of thick, non-odorous pus-like fluid evacuated. This was cleaned up and the main mass liberated from the intestines and delivered, the attachment being on the right side. The tumor mass filled the cul-de-sac tightly. The mass was about the size of an adult head and was cystic. Attached to the mass were small fibrous tumors, grape like in appearance, containing material such as we usually see in inflammatory conditions, but in the main hard and fibrous. These were bleeding and were attached to the uterine body and to the peritoneal wall of the cul-de-sac. A similar hard mass, the size of a grape fruit and irregular in shape, was delivered from the left side and was apparently the degenerated ovary of that side. Several small fibrous masses were removed from the uterine wall where they had seemingly engrafted themselves and as many as half a dozen of similar nature were removed from the peritoneal cavity at other points. None of these masses seemed to be glandular nor was there apparently any glandular metastatic condition in the broad ligaments. A glass drainage tube was left in place. Post operative diagnosis made was sarcoma of the ovary.

Samples of the tissue were examined microscopically in our own laboratory as well as submitted to other laboratories for microscopic examination. Examination of the specimen was most interesting. A large cystic mass was encased in a very thick wall and contained the typical fluid of a dermoid cyst, together with masses of caseous material, hair and other signs of a dermoid. The other large mass the size of a grape fruit was irregular in outline and was apparently an ovary. This cut with extreme difficulty, was very fibrous and contained masses of cartilaginous material as well as small cystic degenerating spots. It was from these specimens that the microscopic sections were cut. The following is the report of the consultant on the microscopic picture of this tumor.

"I have examined sections of the ovarian tumor which you sent in, and wish to report that same is a teratoma. The growth contains cartilage, bone, connective tissue, muscle, skin, rudimentary hair follicles, surface epithelium, gland tissue,

nerve ganglia, etc. In other words this is one of the so-called "histological potpourri" of Rindfleisch.

"The growth is not malignant in the ordinary sense, other than its disposition to continue to grow. However, I have seen one or two of this sort that apparently show regional metastasis.

"This is a 'bird' and I want to thank you for referring the case to me."

I find that this type of ovarian tumor is extremely rare. In 1917 one author reports having been able to collect only thirty-seven well authenticated cases. In one of these cases, the tumor was found incidental to a dermoid, as in this particular case. A possible explanation has been suggested as to the etiology of this type of tumor, the explanation being not alone that of misplaced cells of embryonic tissue which is the ordinary explanation of dermoids, but a result of an ectopic condition of the type of chorio-epithelioma or hydatid mole. It would seem to me that this explanation might have considerable foundation especially in a case where both the dermoid, known to be a non-malignant condition, and the other tissue of embryonic type, which is more than suspicious of malignancy, are found in the same case. This patient however, gave no history of miscarriage or symptoms of that nature. Frank, in his "Gynecological Pathology," states, concerning the prognosis of this type of tumor, that in his own series of thirty-seven cases, the outcome was not known in ten cases, and in the rest a mortality of 88.9%, several of the cases having been observed only six months. He states that the average period of life, after the operation, was from six months to a year and three months. The peculiar metastatic engrafting in the peritoneum was also mentioned in this article and the possibility of lung metastasis has also been mentioned.

This patient was dismissed from the hospital February 19, 1923. An examination March 3d showed marked general gain and no signs of any recurrence to be made out. Pelvic examination in April gave no indication of any recurrence, however, the patient was complaining of severe back ache and pain in left kidney region without any urinary findings and the possibility of metastatic condition of the kidney could not be disregarded.

On the 18th of April the recurrence of the tumor mass could be easily felt; and on bi-manual examination a thick hard mass extending well up above the symphysis. This mass was fixed and was making considerable pressure on the bowel and bladder. X-ray treatment was then advised and



the patient given several doses with the ordinary machine with apparently no effect. On the 23rd of May, three months after the first operation, on the advice of a surgical consultant, she was re-operated. The following is a report of our surgical findings, at that time:

Former wound opened, omentum matted to peritoneum and over an irregular nodular tumor mass which filled the pelvis and extended half way up to the navel. This mass was shelled and torn out and during the process many coils of small bowel were abraded where tumor was densely adherent. A very close attachment was broken through on the sigmoid and much tumor tissue remained on the bowel. No special effort was made to control hemorrhage. Several small masses were engrafted to peritoneal wall and on coils of small intestine. A few of these were removed.

Here again you will note that there were many masses engrafted to the peritoneal wall and upon the coils of the small intestine. Some of these were removed for microscopic study. They were true grafts not metastatic growths. The patient made a most uneventful recovery and was dismissed seventeen days after the operation. Recurrence very promptly began to show, and the patient on the advice of consultant was referred for deep x-ray therapy, with high voltage machine. She was given four treatments of two hours each in the period of about ten days, each application made over the sides and abdomen. She then returned home for thirty days and again returned for a dosage of about double the amount given the first treatment. During the next few weeks no effect could be noted in the reduction of the size of the tumor mass or in the general condition of the patient. The abdomen continued to enlarge with hard nodular masses until it was enormously distended. The patient died on the 26th of July from general exhaustion, about six months after first treatment was instituted.

Case No. 2. A physician's wife, age 50. No unusual family history. Change of life about six months previous to this examination. No flooding spells or anything unusual, either before or since the climacteric. For the past three months the patient had been having an unusual amount of bloating and abdominal distress. She was sure the distention in the abdomen was due to gas. The patient showed marked enlargement of the thyroid gland and some indication of hyper-secretion of that gland. Her sister had suffered from exophthalmic goiter and

had succumbed from the effects of a cancer of the thyroid. On examination the patient was found considerably off in flesh with a very prominently distended abdomen. Bi-manual examination indicated the presence of an abdominal tumor and a diagnosis of ovarian cyst was made. She was operated on in Axtell Hospital May 23, 1918, with the following findings reported:

A cyst of the broad ligament on the right side, holding several gallons of fluid, and extending well up toward the liver. It had to be tapped with a trocar before removal. The tumor was dissected out from the layers of the broad ligament. Near the base of the right tube and attached to the ovary was found a small adventitious cyst. This cyst when opened was found to be a dermoid. It was filled with a cheesy material and contained some hair. It was removed together with the right ovary and tube. Although the abdomen was explored, no other pathology was discovered. She made an uneventful recovery and was dismissed from the hospital after three weeks. She remained in splendid health for about five years or until the latter part of 1923 when the patient began to notice that the abdomen was again enlarging and that there was some tendency to bladder irritation and disturbance of the colon. There was also a tendency to the formation of an unusual amount of gas, as had previously occurred. Bi-manual examination showed a large tumor mass fluctuating, tightly fixed, and the diagnosis of cystic tumor was again made. On the 29th of December she was again operated and the following findings were recorded:

The abdomen was opened in the previous incision and the scar in the skin removed. There was very little hemorrhage from the skin and superficial tissue. On opening the peritoneum a large cystic tumor was seen covered with the fibers of the broad ligament and blood vessels were extremely dilated, being as large as the small finger. After some of the fibers of the broad ligament had been clamped off and released, and the tumor raised up, it ruptured and delivered a large quantity of sero-bloody fluid. There was probably one gallon of this fluid. Clamps were placed down the side of the uterus which was very small and a larger portion of the lining of the tumor was removed. The broad ligament was carefully ligated and the balance of the tumor sac which could not be peeled out was invaginated with the serous-surface toward the peritoneal cavity, so that it could not again close. Drainage tube was

placed in this pocket. A good dressing of omentum was secured and hemorrhage was carefully taken care of. On the inside of this tumor sac was seen a number of small cauliflower like nodules, perhaps twenty-five in all, varying in size from a small pea to as large as a walnut. One or two of these fell out of the tumor sac and were recovered from the peritoneal cavity. None was seen engrafted anywhere on the peritoneal surface of the intestines or abdominal wall.

The microscopic examination made from a section of the small tumor from the cyst wall showed considerable number of cells of embryonic type, together with both large and small round cells and indicating definitely their malignant character.

On March 11th, three and one-half months after her operation, I was called to Topeka to see this patient in consultation with one of our hosts. She was suffering from acute intestinal obstruction and examination revealed a mass the size of a grape fruit, rough and irregular in character, which together with the adhesions was producing the acute obstruction. The abdomen was at once opened under local anesthetic and a dense mass of adhesions was found with a tumor mass rough and irregular in shape, the size of a grape fruit. The adhesions to the loops of the small intestine were so extensive that very little could be done in the way of relieving the condition, and the possibility of removing the tumor could not be considered. A loop of small intestine which was much distended was brought to the surface of the wound and fastened to the peritoneum, so that later it could be opened for the relief of the obstruction. Her death occurred one week later from exhaustion.

The hopelessness of a case of this type is apparent to all of you. In this particular case the interesting feature was the grafting and growth of transplanted tissue. The tissue which, though not primarily malignant, was embryonic in character and capable of carrying on all the destructive characteristics of a typical malignancy with one exception, that of glandular involvement.

In the March issue of *Surgery, Gynecology and Obstetrics* is a splendid article on the subject of "Transplantations and Endometrial Tissue," and their relation to ovarian tumors. This case in particular illustrates to me that transplanation of this type of tissue probably very frequently takes place. The ovary seems to be the favorite seat of the graft transplant and very probably the irritation of the transplant has much to do with the cyst formation.

Case No. 3. Female, 27 years old. Patient called her family physician at 7:00 a. m. on March 7th, this year. Her complaint was severe general abdominal pain. She reported vomiting once or twice, bowels had moved with enema but with no relief from the pain. There was no bladder disturbance and she gave no history of any previous attack of similar nature. She had one child 19 months of age. Menstruation did not appear in February or March and patient thought she was pregnant.

Physical Findings: Face flushed, lips red, no evidence of shock. Rapid pulse full and bounding of toxic character. Lungs filled with moist rales the effect of recent flu and cold. Abdomen had a peculiar fullness, standing up from symphysis like a six months pregnancy. Patient stated that abdomen had always been prominent. Bimanual examination disclosed a uterus enlarged to size of two to three months pregnancy, cervix soft, no discharge from cervix. A large indefinite mass extended above the uterus and up considerably above the navel slightly to the right. This mass was quite fixed and over the right lower quadrant the patient was extremely tender but with no rigidity.

Laboratory Findings: Urine 1020, one plus of albumin, otherwise negative. Leukocytes 10,000. Pre-operative vomiting, coffee colored. Positive guaiac test for blood. Preliminary diagnosis, (first) appendicitis, (second) extra-uterine pregnancy, (third) strangulated cyst.

Operative Record: A right rectus incision was made splitting the muscle to approach a median exposure. On opening the peritoneum a large smooth cyst was disclosed growing from the right side. After enlarging the incision it was delivered without rupture. The pedicle was twisted and strangulated, almost necrotic. It was ligated and the tumor removed with no soiling of the peritoneum. The appendix was inflamed and adherent to the broad ligament. It was removed. The left tube and ovary were normal and not disturbed. Uterus smooth, enlarged, pregnant.

Gross Appearance of Specimen: A thick walled ovarian cyst as large as a basket ball with smooth peritoneal cover. Fluid straw colored, slightly cloudy and thick. Inside lining of cyst was studded with nodules varying in size from a minute speck to a walnut sized rough nodule. Microscopically these were made up of embryonic structures, comprising tissue from all layers.

The patient's recovery was not the usual



uneventful one as is usually reported. She continued her pre-operative vomiting of brown bloody character till we were sure she had an ileus, but the stomach tube brought her through. Her cough and post-flu effects continued troublesome and during an extreme spell of coughing on the 14th day after the operation, she blew out about two inches of her incision between the silk worm gut stay sutures and proceeded to put a few feet of small bowel into her dressings, but in spite of all this, she retained her pregnancy which continued its normal enlargement. A report from her recently, six weeks after her original surgical experience, advises us that she is comfortable and gaining in strength.

Has she been saved from the fate of our two other cases by the fortunate strangulation of the tumor before any transplants appeared on its peritoneal surface and by its removal unruptured, or will one, two or five years see her another victim of malignant cyst?

#### SUMMARY

1. Let us be alive to the unfavorable prognosis which we must give cystic tumors of the ovary which show teratoid or embryonic transplants not distinctly malignant, but most prone to recur by implants.

2. That early and thorough removal without rupture of the cyst wherever possible, offers the best hope for cure.

3. That radium and x-ray seem to offer no assistance whatsoever in destroying embryonic tissue.

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### The Radiographic Diagnosis of Early Pulmonary Tuberculosis

ROLAND G. BREUER, A.B., M.D.

Assistant Medical Director, Kansas State Sanatorium for Tuberculosis, Norton, Kansas.

Read before the American College of Radiology and Physiotherapy, Chicago, October 20, 1925

Humanity has been fighting the disease of pulmonary tuberculosis for ages; Civilization has been collecting facts and statistics concerning it for twenty-eight centuries; and still it is new. Like all of the other of our heritages from antiquity, it has wrapped about itself a venerable mantle of tradition and precedent, much of which, in our medical training, we accept as a matter of fact without further inquiry into it. Although the x-rays, as an aid in the diagnosis of this disease, are only of the present generation, the man employing them—the radiologist or physician—has been trained in the same school as the rest of

us, and has absorbed, directly or indirectly, many of these traditions.

Today, the diagnosis, as well as the treatment of pulmonary tuberculosis is breaking away from the regime of our fathers and is entering upon a new era. Due to radically changed concepts of the pathologic physiology of the disease, it is once more new, and must be learned anew. Under the old regime—before the x-ray was a part of Medicine—the diagnosis of pulmonary tuberculosis was not made until, in a majority of cases it was, according to the new standards, advanced, and therefore, as such, unable to be cured or eradicated.

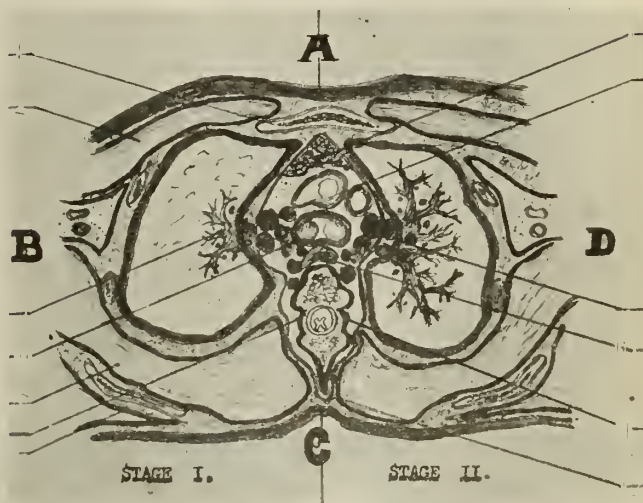


FIG. 1—Cross section of thorax at beginning of aortic arch.

STAGE I—Stage 1 shows enlarged mediastinal glands and only slight fibrosis encroaching onto lung from hilum (an incipient case). Auscultatory and percussion sounds at positions, A and B, are completely absorbed by intervening soft tissues. Only at position C, where there is a continuous bony path of conduction, can these first, faint sounds reach the surface (D'Espien's Sign).

Even a radiograph or fluoroscopic examination shows very little—only a fine spray in the hilum and clouding in the mediastinum, since in an early case the mediastinal glands are not very dense and have very little calcification.

STAGE II—Stage 2 shows the fibrosis extended into the lung tissue sufficiently heavily and far so that the intervening soft tissues fail to absorb the adventitious sounds, which are heard by the examiner as "auscultatory" or "percussion" sounds.

The x-ray examination will show more clouding of the mediastinum and heavy spraying BOTH INTO APEX AND BASE, also fine or heavy beading, depending upon the acuteness of the process.

This stage is no longer a case of incipient tuberculosis.

KEY—1. Sternum; 2. Muscle; 3. Thickening of hilum; 4. Bifurcation of trachea; 5. Muscle; 6. Scapula; 7. Thymus gland; 8. Aortic arch; 9. Enlarged lymph gland; 10. Esophagus; 11. Vertebra; 12. Vertebral spine.

cated as completely as it can be today. Now, however, it is possible to make a diagnosis of this disease before the physical findings of auscultation and percussion become evi-

dent: before the radiograph shows definite lesions in the lungs; and the tubercle bacilli need never become present in the sputum.

This paper does not imply any criticism of the medical examiner or the radiologist. Its purpose is to present to them a procedure whereby a diagnosis of pulmonary tuberculosis may be made before the pathology becomes so widespread as to make recovery difficult or impossible, and to enable the radiologist not only to aid the examining physician in making an early diagnosis, but also to help convince the patient that there is an actual disease present, and therefore calls for early, intelligent, intensive treatment.

Before any physician, be he general man, specialist, or radiologist, can make a diagnosis of really early tuberculosis of the chest, he must have an understanding of the following:

1. Growth of the pathology of tuberculosis.
2. The course of the disease.
3. The signs and symptoms of incipient or early pulmonary tuberculosis.

The radiologist cannot depend upon the plate to make a definite diagnosis of the disease when it is an incipient or early

nately visible. All the x-ray plate shows or the physical findings indicate in a case of suspected pulmonary tuberculosis is whether or not there is *definite, recognizable pathology in the lung*. However, in a case of incipient or really-early pulmonary tuberculosis, neither the x-ray nor the physical findings will show definite lesions in the lungs, *because they are not there*—they are in the mediastinum first, and later in the hilum. Only after *years of activity* in an ordinary case, do the lesions get out into the lungs themselves. Stating it inversely: when the radiograph and physical findings show definite tuberculous pathology in the lung tissue, the case is no longer incipient, but is moderately advanced, or even sometimes advanced. This will be made clear by the newer conceptions of the following:

1. Mode of Infection.
2. Primary seat of infection.
3. Time of infection.
4. Spread of the pathology.
5. The role of physical findings.

#### MODE OF INFECTION

Several different sets of investigations have proven rather conclusively that infection with the human type of tubercle bacillus will cause pulmonary lesions in man;

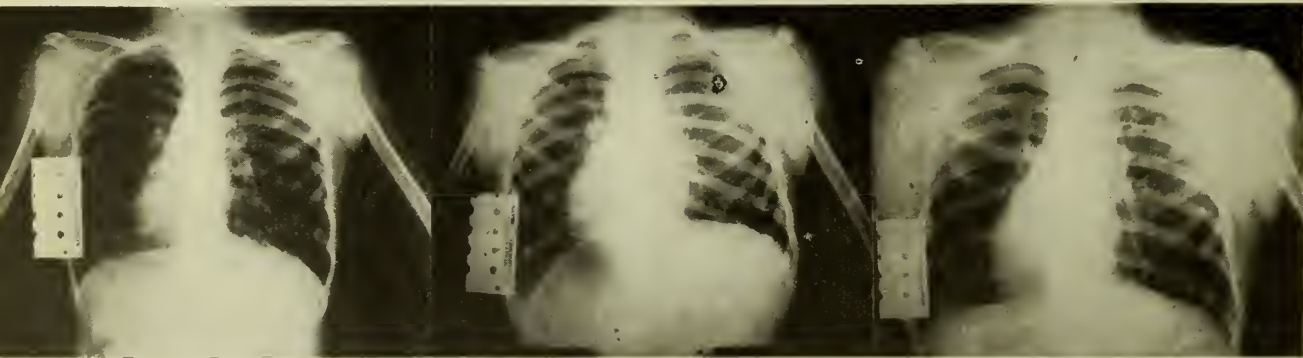


FIG. II—Age 11, female, twin. Beginning fibrosis in right and left hilar regions (left hilum partially obscured by heart shadow). Few light trabeculations extending upward into right apex, and MORE HEAVILY DOWNWARD INTO RIGHT BASE. Afternoon temperature, high pulse, asthenia, etc.

FIG. III—Age 11, male, twin. Has been more active physically than his sister, disease a little further advanced. Correspondingly, the hilar shadows and sprays into apex and base are more pronounced, as is the toxic heart. Afternoon temperature, high pulse, etc. Note the similarity of pattern of the sprays of fibrous tissue on both sides (in all the cases).

FIG. IV—Age 14, male. Disease more advanced. Increase in area and density of the hilar and apical shadows. Right apex beginning to become clouded with fibrosis. Marked toxic symptoms, afternoon temperature, high pulse, rales in both hilar regions and right apex. Physical findings are evident, percussion and auscultation. Toxic heart. This case is not INCIPIENT TUBERCULOSIS but IS INCIPIENT PULMONARY TUBERCULOSIS.

stage, any more than can the examining physician expect to make it from the physical findings of auscultation and percussion, or the dermatologist recognize scarlet fever or smallpox before the lesions become defi-

nite. The bovine type causes bone and joint tuberculosis.<sup>1</sup> Of the three modes of infection: ingestion, inhalation, and inoculation, it is believed that two, or perhaps all three combine in the causation of the disease.<sup>2</sup> On



several thousand cases examined in the last five years, careful elicitation of the family history, not only of the parents and grandparents, but also of the collateral branches even to the third and fourth generation, with a large series of radiographs on whole families through several generations, have led the writer and his associates to the firm conviction that, almost without exception, infection of tuberculosis comes in early childhood, in the vast majority of cases by the second year, and almost always before the seventh or eighth year of life. Also, that 98 per cent had been infected by one or the other of the parents—most often by the mother, even though, as was very often the case in these series, the disease was not diagnosed on the parents, and the greater number of them were living, even having overcome their infection <sup>2</sup>.

#### PRIMARY SEAT OF INFECTION

At the present time it is universally conceded that, come from where it may, the primary lodgement of the tuberculous infection is in the lymph glands of the mediastinum. These glands are the first line of defense of the body. If the infection be not too massive, or the body-resistance not too much lowered by a profound drain upon the whole system such as general infective disease, overwork, overexposure, or starvation (actual in poverty or relative in disease), this first line of defense may prove adequate and the infective process be halted, arrested, encapsulated, and calcified. This process will, however, be a *matter of years*, and the patient will exhibit characteristic toxic and reflex symptoms during all this time <sup>3</sup>. While this pathology is confined to the mediastinum, it does not become evident on routine physical or radiographic examination for tuberculosis in the chest. Here arises the first quandary in the course of the disease: the examiner finds symptoms definitely indicative of active pulmonary tuberculosis; he finds few or no definite physical findings. Therefore, he refers the case to the radiologist, who in turn finds no definite pathology in the lungs on radiographic examination, and so reports. Being unable to explain this seeming anomaly, the examiner hesitates to stand on his judgment and looks for something else. As a result, he is misled by the many reflex symptoms which pulmonary tuberculosis causes, and it often takes the round of tonsillectomy, appendectomy, oophorectomy, cholecystectomy, and often an operation or two for adhesions thrown in for good measure before the tuberculous pathology be-

comes massive enough so that it can climb to the surface sufficiently to make itself seen or heard. Such a history is by no means an exception in the experience of the tuberculosis specialist, especially in the case of the tall, spare, dark-brunette type of patient—the so-called “neurotic” or “gastric ulcer” type.

#### TIME OF INFECTION

The men engaged in chest work are unanimously swinging around to the opinion that in from 90 to 95 per cent of all cases of active tuberculosis, be they eight or eighty years of age before they are recognized, the infection by tuberculosis takes place in infancy or early childhood. For the past few years the grade school has been haunted by the underweight-child problem. Here again, for a while, the tonsillectomist reigned supreme; only recently, in small, isolated areas, men who understand tuberculosis in the child are demonstrating beyond all doubt that most of these underweight children are *tuberculous*—not with *pulmonary*, but with *mediastinal* pathology. A study of the method of handling these children will demonstrate that the procedure employed for building them up is nothing more than the treatment of early tuberculosis. In passing, it is well to repeat that, even when these children are found, the disease has been preceded by an active infection of some years standing.

#### SPREAD OF THE PATHOLOGY

The tubercle bacillus and its depredations act as a foreign body in the tissues and cause a mild irritation. The body defenses attempt to wall it off by encapsulating it with fibrous tissue and impregnating it with lime deposit. If successful, arrestment takes place, and if kept in subjugation and starved for a period of from five to eight years without spread or reactivation, cure may be said to have taken place, although the danger from breakdown may last for two or three decades. For, even a firmly calcified nodule may contain virulent organisms for years, which can again become active <sup>4</sup>.

If, however, the defenses prove inadequate, the primarily infected glands of the mediastinum are filled—the first line of defense crumbled—and the infection overflows into the adjacent glands. The healing process—fibrosis and calcification—doggedly follows in the wake of the invaders in the form of radially and peripherally branching sprays of scar tissue. Even at this time neither the radiograph or physical

findings show the process. The spread of the infection and the protective fibrosis spreads outward, following the bronchial arborizations along a route which is directly the reverse of the lymphatic flow in the lung. Gradually this extension carries the battle into the hilum of the lung, and only then does the process begin to become evident in the radiograph—perhaps years after the infection first gained foothold—for the Koch bacillus is a good-natured organism of low virulence, which goes about its task of destruction in a leisurely, but very thorough, manner.

When the pathology first reaches the hilum of the lung, the radiographic evidences of it are slight—a mere aurora of the coming conflagration. The first thing noted is a mere fuzzing of the hilar shadow, later a slight increase in this region, with an increase in the definition of the lung trabeculations. As the disease progresses farther out into the lung parenchyma, these trabeculations become more definite and extend outward, radially and peripherally, into it. No definite lesions are yet present. With continued spread, these trabeculations begin to show a fine, hazy beading along their course. These beads are minute—from mere pin-point size to 3 mm. in diameter—and are at first very hazy and indefinite. Gradually they increase in size and density. If the disease spreads rapidly, definite caseous lesions appear, which are easily recognized. If, however, as is the rule, they grow but slowly, the body defenses leave them in their wake as calcified nodules, giving us the so-called “flu-spots.” The writer wonders what these calcified nodules were called before the “flu” was made the subterfuge. He has watched these in several cases develop and calcify, having kept them under observation over a period of eight years. Not a single spot became firm and dense on the radiograph in less than three years; the average time of calcification being found to be five to eight years. But all this time the patients have evinced toxic and reflex symptoms of an intermittently active pulmonary tuberculosis.

#### PHYSICAL FINDINGS

The greatest drawback to the progress in the diagnosis of early pulmonary tuberculosis by radiography has been the blind dependence placed by the examiner upon the physical findings of auscultation and percussion. The radiologist has not been allowed to pronounce a case tuberculous until these findings were definite. Therefore,

the first evidences in density of the right apex and mere increase in definition of the trabeculations of the lung have not been given their true significance. Only after the examiner was able to hear the pathology would he allow the radiologist to pronounce a lesion definitely tuberculosis.

In the examination of a chest, the findings of percussion and auscultation are based upon the difference of the transmission of sound by the healthy and pathological tissues. Percussion depends upon the difference of resonance of the tissues; auscultation upon the difference in the transmission of sound by the tissue in question—also upon the audibility of moisture. The fact is often lost sight of, however, that these adventitious sounds become evident to the examiner *only when they are transmitted through the chest wall.*

The character of *all the tissues* intervening between the pathological process and the skin will directly affect the intensity of these transmitted sounds—the rarity, as well as the density, of the sound-transmitting medium which intervenes between the source of the sound and the skin affects the volume of the sound. A spongy, air-filled medium, such as normal lung tissue, not only fails to transmit the sounds, but in reality absorbs them. Thus, the lesions of incipient tuberculosis, which occur in the mediastinum, and those of early tuberculosis, which have spread as far as the hilum of the lung, are surrounded on three sides by sound-absorbing tissues: anteriorly by the thymus (children), sternum, muscle, subcutaneous fat, breast tissue and skin; and laterally by a great pillow of spongy lung tissue in addition to the above. Only posteriorly, where the vertebra forms a continuous bony path for sound conduction, will the first faint adventitious sounds of tuberculosis in the mediastinum be heard as D’Espine’s Sign, which is such an important, and usually the only physical finding in a case of incipient tuberculosis.

The patient not only has symptoms of the toxic and reflex type at this time; the radiograph shows the pathology beginning to spread into the lung tissue from the hilum. But only after the pathology has become so massive and widespread that it has decreased the amount of intervening tissue between it and the surface of the chest wall, and when it is able to throw its vibrations through this wall, does it produce positive findings on percussion and auscultation, years after it first appears in the hilum.

It is the usual practice to look for the primary evidences to first appear in the



apex, usually the right. They do not appear first in this location in the radiograph, although, as a rule, this is where percussion and auscultation first become evident. This latter fact has caused the widespread opinion that tuberculosis begins in the apex of the lung. It does not; the anatomy of the lung is responsible for the appearance of physical findings in the apex first, because in this locality lies the shortest path for sound to travel from the pathology to the skin, and it is here least interfered with by sound obstructing tissue. Repeated x-rays over several years have proved conclusively that the downward growth of pathology into the base of the lung is concomitant with that into the apex, *and that this down-*

the means of examination fall into the following order:

1. Clinical and Family History.
2. Radiographic Plate.
3. Physical Findings.
4. Laboratory Findings.

#### HISTORY

When the radiograph of a patient's chest shows an increased hilar shadow, radially and peripherally branching trabeculations, and beading, suspicion should at once be aroused. If the patient manifest the toxic and reflex symptoms of tuberculosis, such a diagnosis is in order, even though physical findings are not in evidence. An inquiry into the family and clinical history will

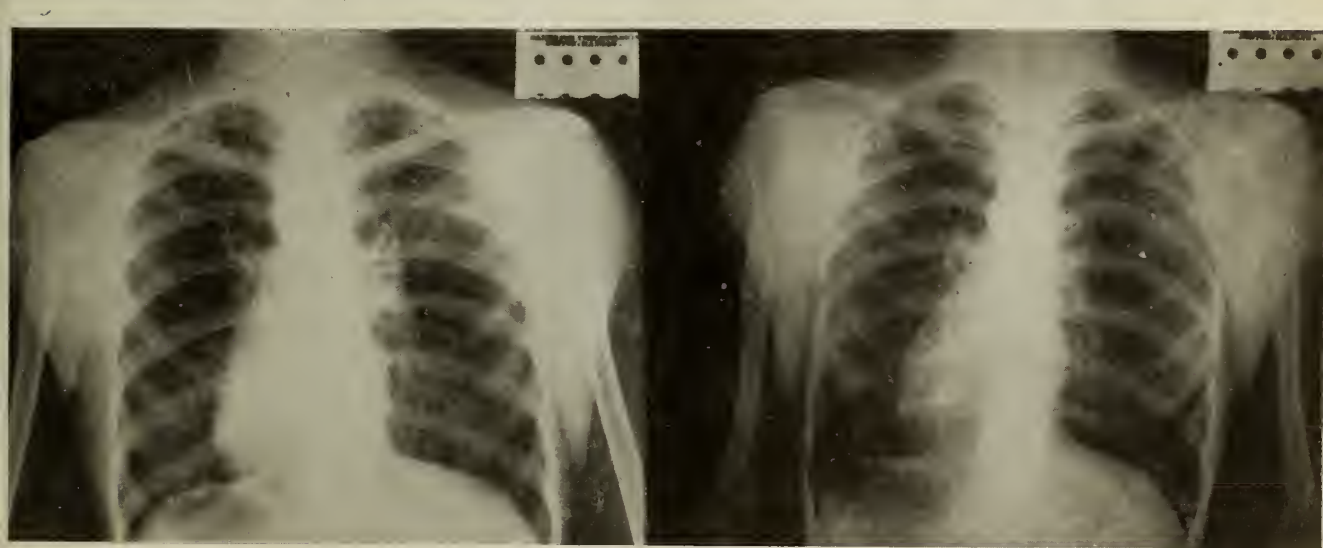


FIG. V—Age 17, female, schoolgirl. Hilar shadows are broader, more pronounced, and the trabeculations are spreading farther out into the lung-parenchyma, especially in the right apex, where the fibrosis has begun to assume a fuzzy, "cottony" effect. The physical findings are more pronounced—tactile and vocal fremitus, prolonged expiration, and rales. Hanging heart evident.

FIG. VI—Age 19, female, university student, worked part of way through two years of school. Arborizations from hilar regions extend still farther into lung parenchyma, especially in the right lung. Physical signs are more definite and pronounced. The right apex shows may small areas of consolidation—"beading". Physical findings are definitely more pronounced than in preceding cases.

*ward growth is the more massive.* Since, however, this downward process is more heavily wrapped in sound-deadening lung tissue, it is heard later in the game, and until it is heard, it is called something else on the radiograph, usually "normal blood vessel shadows," or "chronic bronchitis."

Can, then, the radiologist make a diagnosis of incipient or early pulmonary tuberculosis with assurance from these meagre, indefinite barkings and beadings on the plate? He can, but he must correlate the shadows on the plate with a few facts gleaned from the patient himself—the personal, family, and clinical history, which will give him a background for his diagnosis. In order of diagnostic importance,

prove the suspicion in practically every case.

In the diagnosis of no other disease is the family history of more importance than in tuberculosis. The writer does not wish to infer from this that tuberculosis is hereditary; the contrary has been proven. In the examination of several thousand cases, the family history was very carefully gone into. In extremely few cases, if any, was there not definite indication of either a parent, grandparent, brother or sister (or several of these) having had at some time or other a symptom-complex which could be mistaken for anything else than tuberculosis. Often the disease could be traced back through four or five generations. Many

times there had been no definite diagnosis of tuberculosis made, but the symptoms were typical. In no case where one or other of the parents had had a definite diagnosis of the disease made, did the children escape the infection or the disease. Many of them had not developed activity, others had overcome activity at the time of examination, but evidences of either latent, active, or past infection were in all of them, and were not lacking in the radiographs.

#### SYMPTOMS

In the older scheme of diagnosis, a person did not have tuberculosis until the bacilli were found in the sputum; and he was not admitted to the tuberculosis ward until they did appear. At present over 30 to 35 per cent of all cases admitted, and 75 per cent of those bearing the diagnosis of "early tuberculosis" never show a positive sputum during their entire stay. Many of them have been examined by an experienced radiologist and told that their lungs are clear of tuberculosis—which they undoubtedly were since the pathology had not spread that far. Had the radiologist in these cases, however, been conversant with the newer concepts of the disease, it would have been an easy matter to have correlated fact with radiograph and thereby saved the physician much misunderstanding and grief by a correct diagnosis.

The pathology resulting from infection by the Koch bacillus, whether it be called by its true name or not, gives rise to a certain, definite chain of symptoms which a trained observer cannot fail to apprehend. Taken separately they mean nothing, but, fitted together, they interdigitate into a symptom-complex which no other disease can simulate. These symptoms fall into three classes:

1. Toxic Symptoms.
2. Reflex Symptoms.
3. Local Symptoms.

#### TOXIC SYMPTOMS

These occur as the result of the toxin circulating in the blood. A fact not generally understood or appreciated is that, *in the beginning, pulmonary tuberculosis is a general systemic infection without demonstrable pathology, and gives symptoms and findings as such.* While it is true that the bacilli themselves do not circulate through the system, *their toxin does*, and thereby causes a generalized toxemia. Just as scar-

let fever, typhoid fever, syphilis (after the chancre), etc., have a stage of toxemia without demonstrable lesions, so does pulmonary tuberculosis.

#### REFLEX SYMPTOMS

The reflex symptoms of pulmonary tuberculosis are the result of the irritation of the autonomic nervous system by the toxin and the pathological process in the chest. They are similar to the rigid muscle over an inflamed appendix, the referred pain of gall-bladder disease, or that of a pathological hip joint. As a rule, the reflex symptoms become evident later than the toxic symptoms.

#### LOCAL SYMPTOMS AND FINDINGS

These are the "physical findings" of the usual, routine diagnosis. They occur as the result of actual pathology in the lung, *and only after these pathological processes have become massive enough to give evidence of their presence through the chest wall*, are they found by the examiner, which does not occur, in an ordinary case, for from five to fifteen years of continuous activity, and should be classed as moderately advanced or even advanced. A list of the symptoms follows:

#### TOXIC SYMPTOMS

1. White sclera.
2. Rachitic symptoms.
3. Accelerated pulse rate.  
Retarded pulse rate.
4. Early fatigue.
5. Malaise (afternoon).
6. Nervousness.
7. Morning malaise.
8. Cold, clammy hands.
9. Evening stimulation.
10. Hyperpiesia.
11. Emotional irritability.
12. Slight afternoon temperature.
13. Mental toxemia.
14. Muscle irritability.
15. Accelerated respiration.
16. Lowered hemoglobin per cent.
17. Acidity of urine.
18. Clubbed fingers.
19. Urochromogen test.
20. Psychotic acts.

The above occur in about the sequence given. Their incidence may cover a period of from 5 to 40 years. They are caused by the toxin circulating in the blood. With exception of a few of the latter, they precede the local signs and findings by a long period.



## REFLEX SYMPTOMS

1. Irritation of throat.
2. Hoarseness.
3. Cough (light, hacking).
4. Muscle tension and hypertrophy.
5. Restricted motion or lagging.
6. Muscle relaxation and atrophy.
7. Anisocoria.
8. Pleuritic pain.
9. Shoulder pain (periph, neur.).
10. Pain over hilum.
11. Hyperesthesia.
12. Vasomotor irritability.
13. Hyperacidity (vagus stimulation).
2. Increased breath sounds.
3. D'Espine's sign.
4. Increased whisper and voice.
5. Increased tactile fremitus.
6. Diminished Kronig's isthmus.
7. Slurred vowel sounds.
8. Cog-wheel respiration.
9. Sputum.
10. Enlarged venules in skin of chest.
11. Rales and mucous click.
12. Pleural rub.
13. Hemoptysis and hemorrhage.
14. Impaired resonance.
15. Signs over cavities.

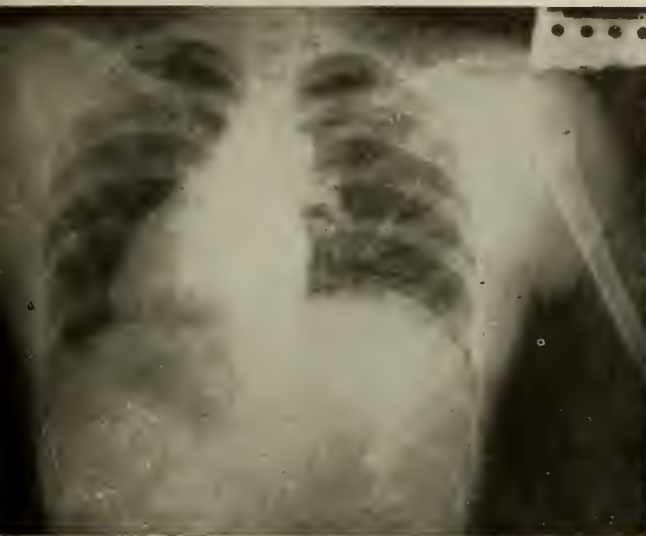


FIG. VII—Age 23, female, married, one child 2 years old. While the patient is overweight, she cannot stand exertion, is sallow, nervous, and has coughed for years. Physical findings are definite, but ARE MUFFLED BY HEAVY LAYERS OF SUBCUTANEOUS FAT. Note the fibrosis of both hilar regions—indicating good healing power. Rales in right apex. Both percussion and auscultation findings are definite but muffled by layer of fat between their origin and the examiner's ear.



FIG. VIII—Age 43, female, mother of the preceding cases. Good fibrosis, which has contracted into firm scar-tissue, but has again begun to break down, in the right apex, which shows diffusion and beading. Physical findings (percussion and auscultation) are very marked, although the symptoms of toxicity are not nearly so marked as in the three younger children, whose physical findings, on the other hand, are conspicuous by their almost total absence.

14. Hypoacidity (sympathetic stimulation).
15. Muscular twitching.
16. Impairment of appetite.
17. Appendiceal or gall bladder pain.
18. Flat chest.
19. Hilus dimple.
20. Apparent kyphosis.
21. Irritation of nasal and pharyngeal mucosa.
22. Dyspnoea or asthma.

These are the reflex result of the *direct irritation* of the autonomic or vegetative nervous system. They precede local signs and findings.

## LOCAL SIGNS AND SYMPTOMS

1. Prolonged expiration.

16. Prominent clavicle.
17. Horizontal clavicle.
18. Concave shoulder crest.
19. Winged scapula.

These, with exception of 9, 10, 13, 16, 17, 18, 19, are due to transmission of sound by actual pathology in lung tissue. When any of the above are heard, the case is no longer early.

What does the foregoing discussion lead to? Simply this: when a case of suspected tuberculosis of the lungs is referred to the radiologist, he should not merely expose the plate, develop it, read it, take the patient's money, bid him adieu, and mail an abstract report to the referring physician. He should attempt to obtain a background for his radiologic diagnosis by an examination

of the whole patient by eliciting the history, symptoms, and by giving the chest a cursory examination.

To obtain the history, signs, and symptoms need consume very little time—only fifty or so questions need be asked. A short examination of the chest would take three minutes. The referring physician would appreciate this effort.

The idea of a radiologist's inquiry into the history and symptomatology, and that he examine the chest of a case may be somewhat contrary to the usual conception of his role—that of merely taking a portrait of a chest and reading it, but the patient will appreciate this interest in him. And, past experience has shown that it is high time to cease to regard the practise of medicine as a sort of Ford Plant, in which each artisan has one, and but one, thing to do, which he is supposed to perform with machine-like fidelity. The sooner the Men of Medicine realize that in every case they are making a diagnosis on and treating an individual human being instead of practising a fragmentary specialty, the more quickly will Medicine again come into its own and begin to eliminate those jackal cults which have crept into the world as a result of overspecialization.

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Note—Figures 2, 3, 4, 5, 6, 7, 8, are members of the same family, which have been under observation for two years. Figures 2, 3, 4, 8, were patients at the institution for several months. The family has definite history of tuberculosis, even among uncles and grand parents.

—R—

#### The Evolution of Science

SARA G. STEPHENSON, M.D., Topeka

H. G. Wells says there have been ten great discoveries since the dawn of civilization. He says a discovery is not an invention. It is greater than an invention, as the sea is greater than the ship it bears. Discovery is the making plain, the laying bare of a new and hitherto unrealized system of possibilities. This is rarely, if ever, the work of a single mind. In Sir Richard Gregory's delightful and inspiring book called "Discovery" one learns how the work and insight of this man served the work and insight of that man until at last a new light dawned upon the world. Dr. F. G. Banting, the discoverer of insulin, the new remedy for diabetes, writing in *Hygeia*, says:

"What we are is in part only of our own making. The greater part of ourselves has come down to us from the past. What we know and what we think is not a fountain gushing forth from the barren rock of the unknown at the stroke of the rod of our intellect; it is a stream which flows by us and through us, fed by the far-off rivulets of long ago. And what we think and do to-day will mingle with and shape the thoughts of nations yet unborn."

Scientists have been called "Pioneers on the World's Last Frontier." Sinclair Lewis, in his recent novel "Arrowsmith," has given us a most vivid description of a scientist. He puts these words into the mouth of the eccentric old scientist, Dr. Gottlieb: "To be a scientist—it is not just another job, so that a man should choose between being a scientist, a bond salesman, a farmer, or a king. It is a tangle of very obscure emotions—like wanting to write poetry. It makes its victim all different from the good normal man. The normal man, he does not care much what he does except that he should eat and sleep and live and love. But the scientist is intensely religious. He is so religious that he will not accept quarter-truths because it is an insult to his faith. He hates the pseudo-scientists and the guess-scientists and the doctors who run about trying to cure people with new scientific discoveries before they are thoroughly understood."

Science is a jealous mistress. She points to worldly position, friends, home and family ties, and says: "Lovest thou me more than these?" The true scientist lives in a world apart. The joys of social intercourse are not for him, for no abstract thinking was ever done in a crowd. I do not wish to give the impression that these people are martyrs, for such is by no means the case. They have chosen to do this work because of the joy it brings. They have the keenest joy—the joy of discovery. Like the poet and the artist, they are impractical people; money means so little to them. They are seekers after truth and count no cost too great to pay.

Witness Dr. Carroll, who in his enthusiasm to prove that yellow fever was carried by a mosquito and by one species alone, allowed himself to be bitten by an infected insect. Carroll lost his life in this experiment but for twenty-five years the territory previously infected has been free from yellow fever.

Dr. Henry Beatjer of Johns Hopkins Hospital has only two of his ten fingers left. He lost the other eight as a result of burns received in x-ray experiments. "I suppose



my research work will eventually kill me," he said, "but I'll die with my boots on."

Radium research caused the death of Prof. Bergonie last winter. The following is copied from The Topeka Daily Capital, under the date of Jan. 3d, 1925: "Paris, Jan. 3d.—The chemist who worked with Prof. Curie and Madam Curie, died today in a hospital, the victim of a strange and agonizing affection caused by continued experimentation with radium. His case is not unlike that of Dr. Vaillant, the noted x-ray expert. In Bordeaux, an autopsy was performed upon the body of Prof. Bergonie by his pupils and a group of specialists, in accordance with the wishes of this martyr to science. Prof. Bergonie had forbidden the holding of any funeral services or ceremonies, asking only that his body be used for the study of the affection that is killing or maiming so many in this branch of science."

Madame Marie Curie, our one great woman scientist, lives in an unpretentious part of Paris, surrounded by her books, crucibles, and retorts. When Madame Curie visited America a few years ago, she was a pathetic figure, prematurely old, lacking in social graces, a little old lady whose clothes were at least ten years out of date. When America asked Madame Curie what could be done to show our love and honor, she asked for a gram of radium. This cost \$100,000 and was far above her financial ability, but the women of America, we are happy to know, gave Madame Curie her radium.

The work of Dr. George W. Carver, a negro professor in Tuskegee Institute and the son of an ex-slave, was recently reviewed in The Literary Digest. This man has produced many useful products from the sweet potato. These include rubber, candy, dye, paste, paint, starch, vinegar, ink, and molasses. He has developed many things from the peanut. This is all very wonderful, but what comes next is greater than all. It is known that Dr. Carver is poorly paid, but he refused a princely salary from Thomas A. Edison, who wished to have this scientist on his staff. But he preferred to remain with his school and help solve the colored people's problems. "I have never received any money for my discoveries," he said. "Some one was benefitted by one of my discoveries and sent me a hundred dollars, but I sent it back to him."

They are always trying to find the North Pole. One failure follows another, but still they go on. Now the finding of the North Pole may never serve a useful purpose, but

it will satisfy that longing in some heart to know the truth. Burton Braley puts it this way:

"With a microscope and a butterfly net and a specimen case they go,  
Into the heart of an African swamp or a jungle in Borneo.

Or with shovel and pick, where the sand lies thick,  
Over cities a long time dead,  
They dig down deep where the dead kings sleep,  
To learn of the lives they led.  
They climb the crest of Everest, they freeze in the Arctic night,  
To weigh the air on a mountain peak or to see that a map reads right.

"Spectacled profs from colleges, fusty and bookish-brained,  
Probing wherever knowledge is likely to be obtained,  
Sifting the old mythologies, testing the dreams of youth,  
Experts in all the ologies, trudging the trail of Truth.

Their bones are strewn mid caverns hewn by the paleolithic man,  
They have died on the trail of the rumored vale where the Aryan race began,  
Fever and drouth in the blistering South, and storms of the cruel North,  
Have taken their toll ere they reached their goal,  
But their brethren still go forth

"Little of fame they get for it, and poor they live and die,  
Knowledge they seek and sweat for it, that the world may gain thereby.  
The world that learns so tardily and grudgingly too, in sooth,  
While ever these pedants hardily fare, forth on the trail of Truth."

These are but illustrations of what has been going on in the world in a greater or less degree since man first began to look about and began to fashion rude implements of stone and iron. Nature's gifts are mostly hidden, and she demands a price of all that would know her secrets. That price is—hard work. Nothing new has ever come to us without someone's paying this price. Often it is after repeated failure, and many work only that someone else may later find the key. There is a synthetic drug known as salvarsan, which has also been called 606. It was called by this number because the chemist who discovered the formula had failed six hundred and five times.

They tell us that the past century has seen more inventions and scientific progress than took place in all the preceding centuries. Things are coming fast now but not easily, please remember that.

During the past few years, much news of scientific discoveries has appeared in the newspapers and magazines. Most of this has been useful information, but some of it has been hodge-podge of misinformation.

The writings of such men as Woods Hutchinson, Royal Copeland, and Dr. Evans of Chicago, have done much toward increasing the general knowledge of the public upon medical matters. Dr. Edwin Slosson of Washington, D. C., is doing a wonderful work in bringing a working knowledge of the purely academic sciences to the people. His writings are now being translated and published in leading periodicals in Europe. He is not a physician, but his writings on science as applied to medicine, as well as all other things that he publishes, are the best to be had. Kansas should be very proud of this little man. He spent his boyhood in the town of Sabetha, Kansas.

Unfortunately, we are getting some badly scrambled reports on discoveries and near-discoveries, which never should have appeared in the lay press at all, but should have been reported in technical magazines. The readers of these magazines are in a position to judge the subjects more nearly on their merits. Just a short time ago, the newspapers, big and little, throughout this broad land, heralded the great tidings that at last some scientists in Europe had discovered the germ of cancer. There is only one thing wrong with this news, and that is that it is not true, or at least many of our best thinkers on this subject do not think that it is true. There are some that hold to the microbic theory of cancer, but the whole subject is one that even the best research workers know little about, notwithstanding the enormous amounts of money that have been given by Mr. Rockefeller and others for this work. Anything these people may have found or have thought they had found is still in the controversial stage and should have been confined to scientific circles until time can settle the question. Dr. Ludwig M. Wolf, the German cancer specialist, says: "They aim at finding the cancer germ; that is to say, they aim at finding something that does not exist. There is no such thing as a cancer germ. How do I know?" Then he goes on to describe the nature of cancer. This disease never occurs in the young, but only after middle life, when in some mysterious way the equilibrium of the body is disturbed and the epithelial cells which cover our body and line all our glands become outlaws and grow where they should not grow.

After the cancer germ excitement last summer, one of our Topeka papers carried an advertisement from an enterprising and up-to-date manufacturer of cockroach powder. We were told that cockroaches car-

ried the cancer germ and that this powder was "Death to cockroaches."

Most of us know something about vitamins, but do we know enough to keep away from companies that are placing condensed vitamins on the market? Our food analysts tell us that these vitamins are in the food we eat daily. They are in milk, butter, green vegetables, etc. Here they are fresh from the hand of God, and why buy from any company? It is claimed by those who know the most about these life-giving properties that attempts to concentrate them usually result in their destruction. They are very unstable, and heat is detrimental to some of the forms. It is possible that a way may be found to concentrate vitamins, but until the real scientists tell us that it has been done and just what commercial product is reliable, let us take our vitamins straight.

The Journal of the American Medical Association runs a funny column called "Tonics and Sedatives." The following is taken from that column:

"Copied from the Orlando, Fla. Sentinel, Chicago, Oct. 13, 1925, via Associated Press. The atmosphere of seacoast states such as Florida and California contains vitamin A. That is the reason for the beneficial effect of such climates on persons with ailments like Bright's disease. Also because the prevailing winds are from the Pacific ocean and free from dust, this clear atmosphere allows the ultraviolet light to reach California in great abundance. The same is true of Florida."

The comment made on this little article is that this air is "hot air."

There was a time when quack medicine was exemplified by Peruna, but this is not true any more. Following closely behind the true scientist are a lot of camp followers, who seize upon every new thing, regardless of its value, and by using a lot of scientific verbiage, are able to fool even our more intelligent public. The very fact that people do know a little about the subject makes them more likely to be deceived by these high-sounding phrases.

The Metropolitan Life Insurance Company, which is ever mindful of the health of the people, as are all life insurance companies—for financial reasons—purchased a full page in the July 25th number of The Literary Digest last summer, which bears directly upon what I have just said. I copy part of it. "The old patent medicine fakir knew well the magic of print. And the army of quacks who follow him have made use of this same magic. Most men and women accept without question printed statements,



which they might discredit, were those same words spoken. Never before in the known history of the world has there been such an orgy of fake cures as there is today. You will find quacks trailing along in the wake of every announcement of important medical research."

The Journal of the American Medical Association deplores the fact that certain persons are now advertising that they will remove superfluous hair by means of the x-ray. How very up to the minute this does sound! And the statement is true enough. They can remove hair with the x-ray. But why use so powerful and dangerous a thing as an x-ray to remove objectionable hair? X-ray burns are serious thing. Would you be willing to let a cosmetician work over you with an x-ray machine?

Since this paper was written, there has been a national meeting of scientists in Kansas City. I copy the following from a report of the meeting in The Topeka State Journal:

"Dr. H. E. Bernard of the Division of Social and Economic Science, says that cults and quackery in the medical profession and more especially in the field of nutrition are increasing. Every contribution to the welfare of the race like the x-ray, radium, insulin, vitamins, etc., floods society with ignorant applications of these discoveries."

Every bona fide new remedy is hailed by the honest physician as a possible savior, which will take care of a large group of ailments. But time always proves that its sphere of usefulness is limited. This brings me to the definition of a cult. A cult in medicine is a complete system of cure, which is the product of one man's mind. While there may be a grain of truth in the system, this little bit of truth is not enough upon which to build a complete system of cure, and this is where fraud enters.

A few years ago there arose a gigantic fraud, which I think might never have come about if the Wassermann reaction for syphilis had not become quite generally known. I refer to the so-called blood tests for cancer, which were promulgated by a man named Abrams. I understand that this man had graduated from a medical college, but he fell from grace and became a quack. Knowing that the public was more or less familiar with the Wassermann test, he had little trouble in foisting upon them his blood reactions for cancer. For to the untrained mind, the one is just as reasonable as the other. Blood specimens poured in to the so-called laboratories, the reports from which were models of craftiness. They usually said

that cancer had been found, or that there was reason to believe that cancer would develop in the more or less distant future. Some one sent a chicken's blood, and a report of cancer came back. On this report a case was started in the courts. Abrams did not live long after his scheme was working, but in the short time that he did live he amassed a great fortune.

Now that I have aroused your suspicion of everyone and everything, what can I give you that may aid you in making discrimination? I have three rules, or we might call them tape measures, that you can use in measuring any new proposition. The first one is: Does it claim too much? The second: Is it primarily a money-making scheme? And third: Has it stood that greatest test of all—the test of time?

I am closing with a few words from our good friend, Edgar Guest:

"Each trade will draw the charlatan and knave,  
The trickster and the liar and the cheat,  
But those who love the work are strong and brave,  
And scorn the base temptations which they meet.

"They seek a joy that profit cannot bring,  
They have a pride the purse cannot supply,  
They have a high ideal to which they cling,  
A goal ahead for which they dare to try.

"These are the good men known in every trade,  
On character they build from year to year,  
They stand behind their work and all they've made  
While charlatans and tricksters disappear.

"Idealists, men call them, for they hold,  
The task is greater than the little gain,  
Nor would they for a petty sum of gold,  
Upon the task they follow leave a stain.

"Let cynics scoff and point the cleverer way,  
Let weak men for the base temptation fall,  
Tricksters and sharpers have their little day,  
But men of high ideals outlive them all."

—R—

### The Relation of the Clinician to the Laboratory

ALBERT S. WELCH, A.B., M.D.,  
Kansas City, Mo.

Read before the Douglas County Medical Society,  
February 4, 1926.

The clinician and the laboratory man are farther separated from each other than most of the so-called specialists. The laboratory worker makes little contact with the living patient. His conclusions are based on examination of the samples presented to him.

Rationally, the chief of any medical

situation should be the physician who has had the case in charge from the outset. He should elicit the history, make the physical examination, interpret the laboratory reports, and advise concerning surgical intervention. However, the practitioner is often ruled by the laboratory just as he frequently accepts the dictum of the surgeon. It is not logical that a man who examines a small piece of tissue under the microscope should, as a general rule, know more about the case than the physician who has attended the patient for days or even years.

Specialists are necessarily limited in their knowledge. Proper allowance should be made for this. The clinician cannot expect from his pathologist a clear-cut diagnosis on every tissue sent for examination. The pathologist should not volunteer uncertain diagnoses.

The laboratory man with his instruments of precision is in a position to make accurate reports. The reports should be simple, precise, brief yet complete, carefully worded, and with the emphasis properly distributed because they are usually momentous to the physician hard pressed in arriving at a diagnosis.

On the other hand, the cautious clinician, ever mindful of the human trait of making mistakes, will accept the laboratory reports with a certain amount of reserve, even when they emanate from the best laboratory in the country.

Where discrepancies occur, it is uncharitable for either the laboratory man or the clinician to blame the other. Each should first search his own records with extreme care. A clinician who received too many reports of "hemolysed specimen" from his Wassermann laboratory blamed the technician. However, after two weeks painstaking search, it was found that the clinician had placed his specimens in cheap alkaline glassware. Meanwhile the technician, sensitive to the insult, had resigned from her position.

Carefully worded reports from the conscientious pathologist are exceedingly valuable to the clinician. The pathologist cannot be too meticulous in the terms he employs,—therefore he writes "surfaces made by cutting" instead of "cut-surfaces" and "consolidated lung regions" instead of "lung areas."

The clinician must not be disappointed if his urine report states "a copper-sulphate-reducing substance is present" instead of reports "gonorrhoea" because he has found Gram-negative intra- and extracellular bis-

cuit-shaped diplococci. If he reports "organisms resembling gonococci", the clinician who knows the *source* of the smear and many other things about the case can draw his own conclusions.

The accurate report following examination of a dog's brain should not be "positive rabies", but "Negri bodies present," or "bodies characteristic of rabies found."

A cautious clinician who ordered two smears sent to the laboratory and received a report of "gonococcus-like organisms in pus from the groin of Mr. A." and "no gonococci in the urethral discharge of Mr. B." did not write a paper entitled "The Rare Finding of Gonococci in a Buboe" nor did he belittle the laboratory for mixing the slides. He again sent smears from these patients and saw that his orderly labeled them properly.

A brother and sister had throat cultures taken at the same time. The laboratory report was negative diphtheria" on the boy who had a dirty pharyngeal membrane, and "positive" on the girl whose throat appeared healthy. But the clinician, without repeating the cultures, decided that the tubes had been mixed and put the boy in a contagious hospital while his sister was sent to school. The boy's throat healed rapidly while the sister had a severe attack of diphtheria!

On a man with history of intermittent epigastric distress resembling that of peptic ulcer, and a sudden severe pain after eating, an interne found a leukocyte count of 24,000 and made a diagnosis of "perforated gastric ulcer." But the wily surgeon hesitated to operate until another cell count was done. It was only 7,000. Dr. Herrick<sup>1</sup> wrote of a modest interne who failed to report a white cell count of 18,000 because it seemed incompatible with the other symptoms recorded. In *this* instance the cell count was probably correct.

There is a coronor's physician in Chicago who when weighing organs always has the weights read by two individuals. If he himself makes the reading, he has another man check it.

A pathologist refused to change his diagnosis of "tuberculosis" made on a testicle and was examined microscopically, although the patient had a positive Wassermann and both his skin rash and nodules in the other testicle disappeared during two weeks specific treatment. The pathological diagnosis was based on the presence of unusual

1. Herrick, Jas. B.: The Clinician of the Future, J.A.M.A. 86: 1, Jan. 2, 1926.



giant cells and disseminated lymphoid and epithelioid cells; but tubercle bacilli were never demonstrated.

This same pathologist diagnosed "cystitis or pyelitis" on the presence of many leukocytes in centrifuged urine from a little girl. But the surgeon operated the child for obscure suppurative mastoiditis and the next day the urine contained very few leukocytes.

It is easy for the clinician to let the laboratory make his diagnosis for him—especially in the free dispensaries where laboratory work costs neither the patient nor the doctor. Therefore the physician who perhaps is in a hurry to get to his office, without eliciting from the patient any more information than that she has "pain in her stomach," orders a complete blood count, urinalysis, Wassermann, blood chemistry, basal metabolism and x-ray of the gastrointestinal tract. Such work requires a large amount of the laboratory worker's time and wears him out. He loses interest, and notwithstanding the mechanical features of laboratory work, good reports depends on mental skill. The laboratory man is grateful to the physician who sends a note with his request for a work such as: "Erythrocyte count, hemoglobin and smear for evidence of lead poisoning." Attention is focused and the technician has a definite object in view.

Some clinicians read a little but not enough, and ask for difficult, useless laboratory work. An unreasonable internist demanded quantitative guanidin tests on blood. Then he asked the laboratory man for the normal figure and was surprised to learn that it had never been established. This clinician became impatient because quantitative sugar estimations were not made on routine urine specimens. It was necessary to explain to him why quantitative estimations are ordinarily only of value on the twenty-four hour specimen.

Another clinician asked for a high-power-field leukocyte count on uncentrifuged ureteral urine. This suggestion was promptly acted upon and appreciated by the laboratory man.

To properly evaluate laboratory reports, it behooves the clinician to have a reading knowledge of the technic of the work requested, or better yet some laboratory experience of his own. In like manner, a little clinical experience is worth something to the laboratory man who would make clinical diagnoses "sight unseen."

The laboratory during the last fifty

years has risen rapidly from a theoretical and experimental into a valuable practical part of clinical medicine. At times it gives information in no other manner obtainable. An ophthalmologist had in his care a girl with chonic keratitis. Her Wassermann was negative. Clinically the case appeared to be tuberculosis. The new Kahn test for syphilis was suggested, run, and found strongly positive.

As a general rule, however, the laboratory is chiefly useful as a diagnostic check. By means of the five senses, the clinician finds evidence to limit his differential diagnosis to a few conditions. When history, physical examination and therapeutic tests have apparently been exhausted and doubt still remains, then laboratory aid should be sought. Thus the diagnosis may be clinched, or a new clue obtained.

The following is cited as an example of harmonious working of the clinician, laboratory and surgeon. Dr. V.'s father, eighty years old, ate some canned cherries. A few hours later, he had generalized abdominal pain and vomited. He developed a cough. Examination revealed rales at the lower part of the right chest, tenderness at McBurney's point, and practically normal temperature, pulse and respiration. In the differential diagnosis were considered food poisoning, pleuritis and appendicitis. The late B. W. Sippy, who was in charge of the case, ordered repeated leukocyte counts and one revealed more than 30,000 cells. Dr. V., the patient's son, believed the case one of food poisoning. Dr. B., the consulting surgeon, thought the case was pleuritis. But Dr. Sippy declared he had never seen either food poisoning or simple pleuritis produce a white cell count of 30,000. On Dr. Sippy's recommendation the patient was operated. There was found a gangrenous appendix at the point of perforation.

————— R —————

## BELL MEMORIAL HOSPITAL CLINICS

Clinic of H. R. Wahl, M. D.

### HODGKIN'S DISEASE (ABDOMINAL TYPE).

This patient is a young man 30 years old who comes in complaining of weakness, pain in back and diarrhoea. His present trouble began a little over two years ago with severe pain in the left hip joint particularly marked at night. It was throbbing in character and varied from a few minutes to two hours duration. His doctor called this condition sciatic rheumatism but give him no relief. A year later the pain moved towards

the middle of the back and then spread to both hip joints.

Six months after the onset of these pains "lumps" appeared under the left arm and gradually enlarged to the size of a hen's egg. Then nodules appeared in his neck and under his right axilla and in his groins. There was no pain, chills or fever. A year before admission the patient received repeated x-ray and arsenic treatments. Five hours of deep therapy was given just below the spleen. No apparent improvement followed.

Progressive weakness has been a marked feature of the patient's illness. He had also lost much weight, and had 10-12 bowel movements a day though this diarrhoea is not constantly present. There have been some night sweats and he has not been able to walk for the past year.

The physical examination shows a weak anemic poorly nourished man about 35 years of age. His teeth are in bad shape and show considerable pyorrhoea and caries. The tonsils are buried and appear inflamed. The pulse is rapid being 92, the blood pressure low 92/36, the liver is enlarged, extending 3 cm. below the costal margin. The back showed scars of an attack of herpes zoster which he had several months before entering the hospital. The cardiac dullness was enlarged. The axillary and cervical glands were slightly enlarged, easily palpable and unusually hard and firm in consistency. Shotty glands could also be felt in the groin. No definite masses were felt in the abdomen. The spleen seemed to be enlarged. There was considerable pain of a sharp shooting character on pressure on the iliac crests and lower vertebrae.

The urine examination was negative. The blood showed a progressive anemia of a secondary type, the red blood count dropping from 2,950,000 on admission to 800,000 shortly before death. The hemoglobin fell from 78% to 20%. The white count varied from 9,800 on admission to 2,600 shortly before death. The differential count showed nothing abnormal. Numerous other laboratory tests such as spinal fluid examinations and blood chemical examinations showed nothing of value. X-ray examination showed an anomalous transverse process on the fifth lumbar vertebra. The diarrhoea was irregular with periods when it was almost absent. Nothing abnormal was noted in the stools.

The largest lymph node noted was one in the axilla about 1 cm. in diameter. It was removed for diagnosis and the pathologist reported Hodgkin's disease.

While in the hospital systolic and diastolic murmurs developed over the base of the heart and the pulse took on a distinct Corrigan character. There was some aching in the knees and feet and considerable restlessness and nervousness. The temperature was irregularly elevated but never over 102°. The patient was given repeated x-ray treatments and also two transfusions without any lasting effect. A few days before death the blood pressure was low, the heart seemed enlarged and the sounds faint.

The clinical diagnosis was Hodgkin's disease though a malignant disease of the mediastinum was suspected. Also a low grade infection with a progressive secondary anemia was also considered by the clinicians. The pain, the diarrhoea and small size of the superficial glands was not explained by the diagnosis of Hodgkin's disease.

At the autopsy no enlarged cervical or axillary glands were noted. Marked edema of the legs was present. There was about a liter of clear straw colored fluid in the peritoneal cavity. The mesenteric glands were not much enlarged but were unusually indurated and shotty in character. Those about the hilum of the liver seemed largest, measuring 1-2 cm. in diameter. The thoracic cavities showed nothing unusual.

Here we have the organs showing the main lesions. The heart is slightly enlarged and is covered with this loose soft yellowish shaggy exudate that can be easily pulled off. It represents an early acute fibrinous exudate of not more than a few days duration.

This liver is enlarged. Its most peculiar feature is the presence of grayish white poorly defined nodules in the portal areas varying from 1 to 5 mm. in diameter. Most of these are subcapsular in location. They suggest tumor nodules but are not sharply outlined. The gall bladder was normal.

The spleen is as you see, considerably enlarged, weighing 260 grams, and has a firm meaty consistency. On the surface and scattered throughout its substance there are small grayish nodules irregular in size and shape and similar to those in the liver. They vary from 2 to 4 mm. in diameter. Similar white nodules are occasionally seen in the substance of the kidneys.

Here are some of the lymph nodes. They are not very large but their hard woody consistency and homogenous white cut sections are unusual.

Here we have another unusual organ—a part of the large intestine, the walls of which are thickened and on the inner sur-



face there are superficial ulcers, some partly covered with fibrin, others with blood clots. Evidently we have here a membranous colitis with large irregular superficial ulcers.

The microscopic examination of this material is interesting and very instructive. The lymph nodes are small but have the typical picture of Hodgkin's disease which is marked schlerosis with destruction of the normal architecture, proliferation of endothelial cells, infiltration with eosinophilic leukocytes and the appearance of peculiar giant cells known as Dorothy Reed giant cells. These are quite characteristic of Hodgkin's disease and show a large lobulated nucleus. In some of the lymph nodes the sclerotic process is so marked as to leave nothing but a dense hyaline mass containing a few scattered cells. Such lymph glands were found only in the abdominal cavity.

The white nodules noted in the spleen, liver and kidneys showed a granulomatous lesion similar to the lymph nodes, showing the characteristic Dorothy Reed giant cells leaving no question but that they represent a visceral extension of Hodgkin's disease.

While this is undoubtedly a case of Hodgkin's disease, it represents an unusual type and illustrates how variable and peculiar this disease may become. While most cases are of the superficial type affecting the cervical and axillary glands, here the striking lesions were in abdominal organs, the thoracic organs being unaffected. Another interesting feature is that the lymph glands even in the peritoneal cavity do not stand out as prominently as the changes in the spleen and liver. It is true that in most cases of Hodgkin's disease, these granulomatous nodules are found in the liver and spleen at autopsy but usually with much larger glands.

It may well be that the prolonged x-ray treatment may have reduced the prominence of the changes in the lymph glands especially since a large gland was noted in the axilla long before the patient came under our observation. It is well known that x-ray treatment will cause the lymph glands to reduce in size but whether it improves the final condition is still a matter of dispute. It is said that those cases of Hodgkin's disease with small indurated lymph nodes are especially resistant to x-ray therapy and the results with it are accordingly very disappointing.

In connection with the x-ray treatment especially the prolonged deep therapy applied to the spleen the finding of a membranous colitis is especially significant. It

is quite possible that the patient's persistent diarrhoea was the result of the x-ray therapy given in excess. Whipple and others have emphasized the destructive effect of such exposure to the intestinal epithelium in experiments with dogs. In other words, the mucosa of the large intestine is very susceptible to x-rays. Diarrhoea is not at all a characteristic symptom of Hodgkin's disease.

The pain which the patient had probably was not directly related to Hodgkin's disease but was brought about by the pressure of the anomalous transverse process of the fifth lumbar vertebra causing sacral strain.

The acute pericarditis may be regarded as a terminal infection and may well have been the immediate cause of death, the patient's resistance having been lowered so as to permit this infection to develop.

Hodgkin's disease occupies a peculiar position. In some respects it behaves like a chronic progressively fatal infection. In other respects it acts more like a neoplastic process with changes involving the viscera towards its termination. It seems to occupy a position between the leukemias on the one hand and lymphosarcomas on the other. Besides the anemia the blood changes are not striking though an increase in large mononuclear leukocytes and transitional cells is said to occur. While this is frequently true it was not present in this case. The constant presence of some fever and the occurrence of foci of infection in the mouth in this case suggests focal infection as a possible factor in the production of this disease.

### Clinic of Dr. Hugh L. Dwyer

Department of Pediatrics

#### HERPES ZOSTER AND CHICKEN-POX

During the past three or four years there have been many reports, especially in the British and French medical literature, of chickenpox, following contact with a person suffering with Herpes Zoster.

Many of these reports carefully exclude the probability that the affected individual was exposed to chickenpox, and offer good evidence that the two conditions are brought about by the same cause. It has been suggested that the two conditions are probably different manifestations of the same disease.

The most exhaustive report in America is the one of McEwen in 1920. He reported Herpes Zoster in a physician followed in five days by varicella in the same patient,

and in ten days by varicella in his three-year-old daughter.

At that time McEwen found 57 cases, showing the association of Herpes Zoster and chickenpox. He classified them into four groups, as follows:

Group 1., comprising 40 cases, about two-thirds of the total. In this group Herpes in one patient was followed in about 14 days, by varicella in some who were exposed.

Group 2, comprising 12 cases in which Herpes and varicella occurred successively in the same patient. The time interval between the appearance of the two diseases was from one to eight days, with an average of three and one-half days.

Group 3, comprising two cases, in which Herpes Zoster was followed in the same patient by varicella, and later varicella in others who were exposed.

Group 4, comprising four cases in which Herpes Zoster followed exposure to varicella.

Mary K., aged 8 years, was seen October 26, 1925, suffering with Herpes Zoster. The lesion was an inflammatory band covered with vesicles, on the left side of the body extending from near the vertebra around the axilla to the midclavicular line. The lesions covered the eighth and ninth ribs. Twelve days later her infant brother, six months old, became ill with a generalized chickenpox eruption. Three days later her cousin, five months of age, developed chickenpox. This baby had been at the home of the Herpes Zoster patient exactly fourteen days before, and had not been otherwise exposed.

It is assumed therefore that these two cases of chickenpox developed as a result of the exposure to Herpes. The patient with Zoster had a history of having had chickenpox several years ago and had several definite chickenpox scars on her body.

This observation is in agreement with several other reports, that an attack of chickenpox does not protect against Herpes. It has also been found that convalescent serum from chickenpox patients will protect against chickenpox but not against Herpes. Certainly therefore, the two conditions cannot be different manifestations of one disease, as have been suggested.

Complement fixation tests, according to Netter, show a crossed affinity of the antigens resembling smallpox and chickenpox.

## New Silver Compounds

The silver salts have lost none of their prestige, notwithstanding the flood of topical antiseptics and germicides which is overflowing the market. On the other hand, certain improvements are being made, with the object of avoiding the irritating or staining features of the older silver compounds.

By an ingenious combination of silver iodide with a gelatinous protein, this salt has been made impervious to the action of sunlight, so that its solutions (or suspensions) do not turn dark on exposure. Thus the staining effect of the silver is avoided. And it would appear from bacteriologic tests made by the manufacturers (tests which, of course, any bacteriologist can repeat) that the germicidal activity of the new silver preparation is at least equal to that of pure carbolic acid; moreover, that, whatever the concentration of the solution, inflamed tissues are not irritated by its application.

The name of the product referred to is Neo-Silvol, and the manufacturers are Parke, Davis & Co. Some of the applications of Neo-Silvol are mentioned in an advertisement which appears in this issue.

—R—

Legislation now under consideration in Congress aims to modify the interpretation of the federal Food and Drugs Act so that food products shall not be deemed adulterated or misbranded "because of having been preserved or sweetened with an article commonly known as corn sugar, also with an article known as fruit sugar or levulose." From the standpoint of nutrition and health, no reasonable objection can be offered to this proposal. It should be emphasized that in the new pharmacopeia "glucose" connotes the syrupy substance: the pure substance such as is used for treatment of hyperglycemia following a large dose of insulin is now described under the name of dextrose (sometimes called d-glucose; formerly described also under the name anhydrous glucose). This may lead to confusion, as many physicians still speak of "glucose" injections, which under the new pharmacopeia are really "dextrose" injections. (Jr. A. M. A., Feb. 27, '26.)

—R—

Intolerance is a primitive hangover trait from the cave man.

—R—

All doctors are quacks when people are well.



# THE JOURNAL

*of The*

## Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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### SOME PROBLEMS IN MEDICAL ECONOMICS

At times something has been said in these columns about the contribution made by the medical profession to the public debt, a debt, at any rate, the public has assumed. The fact that a considerable amount of the public's funds is spent in caring for the destitute is an acknowledgment of its obligation—an obligation to supply their needs, to house, clothe and feed them and provide medicine and care for them in time of sickness. To this end poor farms are established, city and county hospitals are built; but on a scale hopelessly inadequate to meet the requirements. And thus the public, as a whole, shifts the greater part of its obligation to the churches, to charitable and fraternal organizations, to charitably inclined individuals and to the medical profession.

In this number of the Journal is reproduced an article on "Our National Doctor's Bill—The Public's Debt," in which an effort is made to compute the value of the gratuitous services rendered through medical institutions. According to this estimate their services represent a total cash value of \$135,533,554.00 per annum. This would be an annual per capita donation in gratuitous services by the medical profession of \$821.00 to the medical institutions

supported by public taxation, by charitable organizations or by charitably inclined individuals.

This does not include the free services given to families or individuals by physicians in the routine of a general practice.

It is quite certain that the members of no other profession average so large a contribution to the public debt. It is safe to assume that an equal number of the men of great wealth will not average such large contributions to charity, in proportion to their average incomes, as do the members of the medical profession. All the merchants in all the towns and cities in the country will not average so large a donation from their stock in trade to the needs of the poor.

But these contribute liberally to every charity. It is not their fault that the medical profession bears such a heavy burden. It is the fault, if a fault, of the medical profession itself. In its early history it assumed the obligation of caring for the sick and has never permitted its release from that obligation. Neither church nor state has encroached to any considerable extent on this prerogative of the medical profession. Even the growing tendency to commercialism in the practice of medicine has in no way minimized this obligation to give free service to the poor.

It is an easy matter to point out the economic error in such a disproportioned responsibility. There are a dozen reasons why all the needs of the poor and afflicted should be provided by taxation but there is a factor in this that is greater than business principles or public policy. Call it sentiment if you like, but there is in every normal man a desire to give, a sense of great satisfaction in being able to give. To the medical profession is granted a privilege greater than is granted to any other group of men, the privilege and the power to give relief from pain and suffering, to give even life when the death angel hovers near.

The article referred to above was prepared in an effort to justify the campaign

now being made to establish homes for aged and indigent physicians. No one can question the good will of the men who are making this campaign. No one will deny that the services of the medical profession to the public have been of inestimable value, or that the founding of these homes will be an appropriate acknowledgment of those services. In fact the proposition should receive the hearty applause from the whole profession.

Yet one may not escape a sense of humiliation in this admission of its improvidence and the necessity for soliciting contributions from the laity to care for the aged and decrepit in our ranks. This indifference to the welfare of its members suggests that, in spite of its boasted fraternalism, there is lacking in the medical profession that sympathetic cohesion so dominant a factor in the organization of industrial groups.

It is impossible for the medical profession to immediately provide the funds for such an elaborate outlay as is contemplated by the Physicians Home, Inc., but it is not too late nor impossible to begin to provide for the future needs of our disabled members; either through the organizations now in existence or others that may be formed for the purpose.

While a few of the kind hearted philanthropically inclined laymen are lending their services to provide for the care of our aged and destitute members, other forces are constantly endeavoring to curtail the boundaries of the doctor's field of labor, to divert more and more of his legitimate business to industrial hospital associations and to government agencies.

The following is extracted from an editorial appearing in the Journal of the American Medical Association, January 23, 1926: "Through paragraph 10 of section 202 of the World War Veterans' Act, 1924, veterans of the Spanish-American War, of the Philippine insurrection, of the Boxer rebellion and of the World War, suffering from neuropsychiatric or tuberculous ailments or diseases, or from paralysis agi-

tans, epidemic encephalitis or amebic dysentery or from the loss of sight of both eyes, are entitled as a matter of right to treatment and care in hospitals under the Veterans' Bureau, at government expense, whether their ailments or diseases are or are not of military origin. Veterans of any war, military occupation or military expedition since 1897 are entitled to that treatment and care whenever the director of the Veterans' Bureau finds facilities available, no matter what may be the nature of their disabilities, and no matter what may be their origin. The government pays traveling expenses incident to such treatment. Whether an applicant is rich or poor, able to pay for treatment or belongs to the dependent classes, makes no difference, except that, in admitting patients of the latter class, preference is given to those financially unable to pay. The only condition the applicant must comply with is to prove illness or injury, to abandon his home physician and the hospitals of his own place of residence, and to enter a government institution, for treatment by physicians paid by the government. . . .

"Bills are now pending in Congress to extend to every beneficiary under section 10 of the World War Veterans' Act, 1924, outpatient treatment, in addition to the hospital treatment already authorized, and to grant the privilege of hospitalization and of outpatient treatment to Spanish-American War nurses, contract surgeons and contract dentists. Another bill proposes to extend a like privilege of hospitalization to all disabled ex-service men in the war between the states, including Confederate veterans. Another bill may be construed as entitling all civilian employes who served overseas during the World War to hospitalization at any time during the remainder of their natural lives, for any disease or disability. Other bills propose to give every disabled ex-service man, including Confederate veterans, the degree of disability not being stated and regardless of the origin of such disability, not only hospital care, but medical treatment, nursing, and all necessary care."



By what process of reasoning such a provision as that could be justified, politicians may explain or try to explain.

By whatever process of reasoning free medical services to veterans of the World War is justified, the same line of reasoning will justify free medical services to the families of these veterans, since they are presumably dependent on them. One could quite as easily also justify free rent, free food and free clothing, for both the veterans and their families, at the expense of the government.

The government is under obligation to give whatever relief is possible to those whose disabilities were acquired in its service; and the medical profession will assist in doing so to the extent of its ability; but it has generally been regarded as obnoxious policy for a state or national government to enter into competition with its citizens in any of their business enterprises.

With the prosperity now experienced in this country there seems no good excuse for any further experiments in government paternalism.

The Sheppard-Towner act has nearly reached the end of the experimental period for which it was enacted. Whether the members of Congress will find sufficient evidence of its benefits to extend the period of trial is yet to be learned. No evidence has so far been produced to show that the death rate of infants and mothers has fallen more rapidly since the Sheppard-Towner Act has been in operation than it was falling before. No evidence has been produced to show that the death rate of infants and mothers has fallen more rapidly in those towns and counties where the money provided by this act has been available than it has in places where the funds were not available—assuming of course that wherever the funds were available they were expended in accordance with the provisions of the act. If any records have been kept by the Children's Bureau that show that sickness has been prevented or lives saved by the Act they have not yet been made public. A report sent out some time ago indicated, as unprejudiced minds

would interpret it, that those in charge of the administration of the act had practically exhausted the fund appropriated and were about ready to begin to do something toward carrying out the purposes for which the bill was presumably enacted. There can be no question, however, but something has been accomplished, perhaps not entirely unforeseen by the most enthusiastic advocates of the measure. It has accomplished the expenditure of a considerable amount of money and has afforded fairly lucrative jobs for a considerable number of people.

This is one of several recent national legislative enactments that could be dispensed with, without any perceptible loss benefit to the people at large, but with a considerable saving to the government.

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### CHIPS

For some years the Council has been questioning the value of antistreptococcus serums. These products have been retained in New and Nonofficial Remedies with the caution that on the basis of clinical reports there is perhaps justification for the use of the serum in streptococcus infections, but that there is no scientific basis for it. In consideration of a report prepared by Dr. Emil Novak on the basis of a questionnaire sent to a number of surgeons, gynecologists and obstetricians, the Council voted to retain antistreptococcus serum preparations in New and Nonofficial Remedies provisionally.—(Jour. A. M. A., Feb. 6, '26.)

Some time ago the United States Public Health Service issued a warning that the "National Health Service," Washington, D. C., was attempting to capitalize the research work done by the United States government and to confuse the public into believing that it was in some way identified with the Public Health Service of the government. The offices of the National Health Service are no longer in Washington, D. C., but in New York City. The concern is either operated from two addresses—17th West Sixtieth Street and 70 Fifth Avenue—or there are two concerns of the same name. From the first address a so-called "Book of Health," a urinalysis "health service" and a line of fad foods are sold. From the Fifth Avenue address letters are sent to industrial concerns urging

them to purchase "a remarkable discovery for kidney disease, which has produced unbelievable results even in extreme cases where all other means have failed." An analysis of Rensano made in the A. M. A. Chemical Laboratory confirmed by pharmacologic tests carried out at the University of Illinois showed that Rensano is essentially milk sugar with a minute amount of alcohol. This inert and therapeutically worthless product is exploited to individuals and industrial plants with the suggestion that working men suffering from such serious conditions as nephritis and diabetes should be given this product in lieu of medical attention. (Jr. A. M. A., Feb. 13, '26.)

The term "solidified formaldehyde" is used loosely, sometimes denoting dry paraformaldehyde but more generally denoting a solidified mass of soap, tallow, or such substance with formaldehyde. When paraformaldehyde is heated formaldehyde and some sublimed paraformaldehyde are given off. The amount of formaldehyde yielded depends on a number of conditions. In the case of solidified formaldehyde, the concentration of the formaldehyde and the amount of vapor evolved must be known to judge its efficiency. Fumigation as a means of preventing the spread of disease is regarded as far less important than formerly. (Jr. A. M. A., Feb. 13, '26.)

The harmfulness of acacia in the treatment of shock and hemorrhage has been pointed out repeatedly. The changes resulting from the use of this otherwise inert agent bear on the many sided question of intravenous therapy. The investigations of Hanzlik have shown the wide changes which occur in the blood and tissues. Confirmatory of the work of Hanzlik, it was found that the blood after injection of acacia is definitely altered. The danger of intravenous injection of acacia has been fully demonstrated. The warning against acacia may be extended to other blood substitutes and in fact to intravenous injections in general. (Jr. A. M. A., Feb. 20, '26.)

The arsphenamines are so reactive that they may not be combined in solutions with mercury salts for intravenous administration. Alteration of drugs, rather than simultaneous administration, is the present trend of antisymphilitic medication. Mercury compounds administered intravenously should be given more frequently and over a longer time than is permissible for the administration of arsphenamine in suf-

ficiently large doses. Furthermore, it is generally advisable not to give intravenous mercury medication, but to employ the forms such as the insoluble salts (or certain soluble salts) intramuscularly or to apply inunctions. (Jr. A. M. A., Feb. 20, '26.)

"I dressed him; God cured him," said Ambroise Pare.

The chemist has succeeded in changing lead to mercury and thallium, another way out for wicked man.

Green lumber is dried in twenty-four hours by the vacuum process. We are encouraged.

Heat waves transmitted by radio is the proposed new kink in air service promised by the scientist.

Insulin has been developed in crystal form by Dr. John Abel of the John Hopkins Medical School.

Synthetic (just as good) insulin will soon be on the market.

Osler said, "A man rarely dies of the disease from which he is suffering, but of terminal infection." In other words the big bugs got him down and left the details to the weaker and little bugs.

Any drug which has the power to do good when rightly used, has the power to do harm if wrongly used.—Hare.

Have the readers of this journal or any other journal ever seen a case of cancer in an infant?

Vitamin X has been found and christened Vitamin E.

The discoverers are Dr. Herbert M. Evans and Dr. K. S. Bishop of the anatomy department of the University of California. This vitamin stimulates reproduction in animals. It is found in lettuce, wheat germs, alfalfa and egg yolk.

Prohibiting the use of the foods named will do away, in a measure, with eugenic societies and at the same time prevent crowding.

A method of treating human ills cannot be useful and harmful.—Hare.

Ehrstrom ventures a fifty-fifty assertion as to whether high blood pressure shortens life or not. His observation of sixteen years and three hundred patients makes him a doubting Thomas.

A formula has been discovered for making synthetic chaulmoogra oil.

Dr. Martson T. Bogart, chairman of the



committee on chemical research on medical substances, of the National Research Council, is the authority.

Chaulmoogric acid which is the active principle of chaulmoogra oil, has been analyzed by Dr. Roger Adams, professor of organic chemistry in the University of Illinois. The claim is made that from sixty to seventy-five per cent of the cases (in the early stages) of leprosy are cured by the oil.

More proof of man's monkey origin: Heretofore it has been assumed that certain diseases with which the human being has suffered could not be transmitted to brute animals and notably leprosy. Now comes Professor Renstierna, the famous Sweede, who has discovered a method of transmitting leprosy to monkeys.

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### Protest the Sheppard-Towner Act

The Sheppard-Towner Act will continue in force two additional years—until June 30, 1929—if two bills<sup>1</sup> introduced into Congress to accomplish that end are permitted to become law. Otherwise, the act will expire by a self-contained limitation, June 30, 1927. The proposed continuance of federal domination over health matters in which the state is constitutionally supreme is in itself pernicious. The proposal is, moreover, astutely timed to force on Congress at the very threshold of the next presidential campaign the question of making the system permanent. It will be remembered that the original proposal was also incorporated as a plant in the platforms of both leading political parties. The proponents of the Sheppard-Towner scheme are apt to brush aside facts and figures by an emotional appeal on behalf of mothers and babies. Any discussion of the scheme in the days immediately preceding a presidential campaign is certain to be complicated further by considerations of political expediency, arising out of the question as to who is going to deliver the women's vote, and where. The act became a law five years ago. Millions of dollars of federal and state moneys have been spent to enable its supporters to establish its merits. Who will say that the evidence submitted indicates that they have done so? Their present plea for the continuance of the scheme for only two years may well be construed as an admission that they have found nothing in the evidence that would justify them in asking for enactment of the procedure on a more lasting basis. The

Sheppard-Towner Act has been condemned unreservedly by the House of Delegates of the American Medical Association. The pending bills to continue the act in effect are clearly within the ban of such condemnation. Now is the time to protest against their enactment. The Committee on Interstate and Foreign Commerce, House of Representatives, to which the House bill has been referred, at the present writing has not made its report. Even after it does so, the bill must be acted on by the House. The Senate bill is still to be acted on by the Senate Committee on Education and Labor, and by the Senate. If the Senate and the House agree on a measure, it will still have to be approved by the President. State associations and county societies, and the physicians of the country generally, should immediately telegraph or write to the President and to their Senators and Representatives protesting against the enactment of these bills.—(Jr. A. M. A., Feb. 6, '26.)

1. S. 2696, A Bill to Extend the Provisions of Section 2 of the Act Entitled "An Act for the Promotion of the Welfare and Hygiene of Maternity and Infancy, and for Other Purposes." H. H. 7555, a Bill to Authorize for the Fiscal Years Ending June 30, 1928, and June 30, 1929, Appropriations for Carrying Out the Provisions of the Act Entitled "An Act for the Promotion of the Welfare and Hygiene of Maternity and Infancy, and for Other Purposes," approved Nov. 23, 1921.

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### Superstition and Cancer

By THE PRODIGAL

Don't laugh—until you read this through. Are you superstitious? Were your parents? Do you laugh about their superstitions regarding their planting potatoes when the moon was in certain phases? Well, he laughs best who laughs last. Would you be surprised if their superstition had a scientific basis?

Dr. D. T. MacDougall made the statement at Phoenix, Arizona, February 18th, at the convention of the American Association (Southwestern Section) for the Advancement of Science, bearing out the so-called superstition of our dads, as a fact. Dr. MacDougall is one of the world's chief authorities on plant life.

He said that while moonlight is reflected sunlight it consists of what scientists call polarized light, that is light vibrating in one direction. While ordinary light waves vibrate in all directions. British scientists claim that plants grow faster in polarized light. That certain bacteria grow faster in polarized light than they do in sunlight. There are certain bacteria that cause dead

fish to rot and makes them appear phosphorescent at night.

We conclude then, that what affects plant life affects animal life and "man being what he eats," polarized light, (for the vegetarian especially) will soon be in a class (second) as a therapeutic agent with sunlight—and—that it is not best to laugh at, treat lightly nor to call the accumulated experience of the human race, superstition, for it is based upon intuition and has turned out too often to have a scientific foundation.

The cancer bacillus has been isolated by Dr. Josef Schumaker of Berlin. He says it is a great big fellow. It is shaped like the letter "S" with nodules at the ends. It was discovered by a microscope magnifying only sixty times.

He says the bugs were in such numbers that they constituted one tenth of the entire area of the cancerous mass. The reasons the cancer bug has not been discovered before now is, probably, a too high powered microscope was used or the bacillus was so big they did not see it.

#### —B—

### KANSAS MEDICAL LABORATORY ASSOCIATION

#### Some Points in the Examination of Sputum and Urine For B. Tuberculosis

By E. LEE TREECE

(From Department of Bacteriology, University of  
Kansas, Lawrence.)

The usual procedure in the laboratory examination of sputum and urine for B. Tuberculosis is the application of the acid fast stain to smears made of selected, yellowish bits of material from the sputum, or in the case of urine from the sediment after centrifugalization.

The fact that acid fast bacilli other than B. Tuberculosis may be found normally in both sputum and uncatheterized urine may cast some doubt upon the conclusion that the material is tubercular especially where the organisms are in very small numbers and where the clinical symptoms do not indicate Tuberculosis.

There has been a number of stains recommended for differentiating between B. Tuberculosis and other members of the acid fast group. Sherwood<sup>1</sup> after comparing such methods came to the conclusion that "Gabbett's, Ziehl-Neelson's, Pappenhiem's and Bunge and Trantenroth's methods are not at all reliable as means of differentiating the tubercle bacillus from the rest of the acid fast group." That "Fonte's method seems to be much superior to the other

methods but not entirely reliable in urine and even in sputum examinations."

Since acid fast organisms that cannot be differentiated from B. Tuberculosis by staining are rather widely distributed in nature, other means of identification is often necessary and animal inoculation and cultivation should be undertaken. Sometimes the material is such that animal inoculation or inoculation of media may be made direct but usually preliminary treatment is necessary to concentrate the B. Tuberculosis and to destroy other organisms.

#### ANTIFORMIN METHOD

A 15-20% solution of antiformin is mixed with an equal portion of the sputum or urinary sediment. Shake until all masses are dissolved and dilute with an equal amount of normal saline, centrifugalize at high speed for 15-20 minutes, decant or pipette off the supernatant fluid and wash the sediment by adding distilled water and again centrifugalizing. The sediment may then be used for staining or animal inoculation.

#### PETROF'S<sup>2</sup> METHOD

Add 3% NaOH (normal NaOH may be used) to an equal amount of the sputum, urinary sediment, or pus. Shake well and place in 37°C incubator until the material has digested (30 minutes to 2 hours, usually). Neutralize to sterile litmus paper with N/HCl and centrifugalize 10 minutes at high speed, decant or pipette off the supernatant fluid, if the neutralization with HCl has been properly done, further washing of the sediment is unnecessary. This sediment may then be used for animal inoculation or cultivation.

#### ANIMAL INOCULATION

Guinea pigs are usually selected for injection. The injection may be either intraperitoneal or into the region of the inguinal lymph glands; in case of the latter, the glands in the region should be bruised.

The sediment should be sufficiently diluted with sterile saline so that it can be drawn up into a hypodermic. From .1 to .5 cc. of this sediment is then injected. The animal should be kept under observation. If the animal dies within 2 or 3 days it is usually due to a pyogenic infection accidental to the injection. If still living after 4 to 6 weeks, the animal may be killed and posted. If the injection has been intraperitoneal, the retroperitoneal glands, spleen and liver, should be searched for characteristic lesions. The inguinal glands



should be especially examined in case of an injection into that region.

The time necessary for diagnosis from animal inoculation may be shortened to 2 or 3 weeks by the injection of about 2 cc. of Tuberculin subcutaneously into the guinea pig at this time. If the animal is tubercular, it will usually die within 24 hours. A normal animal will resist several times this amount of Tuberculin.

#### CULTIVATION OF B. TUBERCULOSIS

Petrof's Method. The directions for preparing the media are as follows:

Five hundred grams of ground lean beef or veal infused over night in 500 cc. of a 15% glycerine in water.

Sterilize shells of a dozen eggs by washing in 70% alcohol, carefully break eggs into a sterile breaker, thoroughly mix whites and yolks with a sterile rod and filter through sterile gauze into sterile graduate. Egg mixture, 2 parts. Meat infusion, 1 part. Sufficient 1% aqueous gentian violet to make 1-10,000 dilution. Tube 3 to 5 cc. in sterile tubes and inspissate between 75° and 85°C. for several hours on three successive days.

If it is not convenient to use an inspissator, we have found that an Arnold steam sterilizer may be used by placing the tubes at the desired slant and regulating the temperature of the sterilizer to 75°-85°C. by leaving the door ajar. Heat one hour each day for three successive days. (This may also be used for sterilizing Loeffler's medium.) Some laboratories use the autoclave successfully in sterilizing such media by using special precautions.

Then to twelve tubes of Petrof's media are inoculated with the undiluted sediment. Smearing the entire surface of the slant with the material. The tubes should then be tightly sealed with flamed corks over the cotton plug or by saturating the cotton plug with melted paraffin.

The tubes should be incubated at 73°C. After about three weeks the tubes should be opened and the surface of the slant disturbed with a sterile needle. The stirring or the advent of fresh oxygen seems to stimulate growth as it usually appears in a week or ten days after this procedure.

Failure in the culturing of the B. Tuberculosis by this method may be caused by:

1. Failure to inoculate a sufficient number of tubes. Inoculation of a large number of tubes is necessary because; (a) there may be very few organisms in the sediment, and a single tube not be heavily enough seeded; (b) there is a tendency for

molds to contaminate the tubes. These must be discarded. (c) Some tubes may be contaminated with other bacteria, and must be discarded.

2. Failure to properly neutralize the alkaline sediment.

3. Failure to prevent contamination of the sediment after neutralization. We have been particularly successful in this laboratory in employing this method for the isolation of original cultures, having had very few failures in obtaining good growth where an acid fast organism could be demonstrated by staining.

1. Sherwood, N. P. The Kan. Univ. Science Bull. Vol. X, No. 3, Jan., 1917.
2. Petrof, S. A.; Jour. Expt. Med. Vol. XXI, No. 1, Jan., 1912.

#### Technique of Nesslerizing

E. R. LEHNHERR

(From the Department of Bio-Chemistry, University of Kansas, Lawrence.)

The technique of good Nesslerizing seems to be very difficult for the individual to acquire. He will probably have fair success with pure solutions of urea containing the suitable amount of nitrogen, but when it comes to an unknown, such as urine, he is almost certain to experience difficulty. Invariably the beginner will have precipitation of the colloid formed, either immediately, after standing a short time, or even after placing the solution in the colorimeter cups. One cannot even be sure of the standard coming out good unless certain precautions are observed. This technique is the basis for the determination of ammonia, urea, and non-protein nitrogen (Folin's micro-Kjeldahl). Thus is seen the importance in having a good technique in the use of this reagent.

The principle of the procedure is the formation of a temporary, complex, colored colloid—the depth of the color depending on the amount of nitrogen present (within certain extremes). The colloid formed is no exception and is affected by the same physical and chemical agents that affect other members of this class.

The turbidity obtained may be due (in the micro-Kjeldahl) to the quartz pebble that has been acted upon by the strong acid mixture. In this case centrifuging will remove the difficulty. If, however, the centrifuging has driven a sediment of the reagent to the bottom of the tube, then the trouble must be sought elsewhere.

(a) A very important precaution is to have all the glassware absolutely chemically clean. This will include all beakers, pip-

ettes, test tubes, etc., that are to be used in the determination. This is especially important if Nessler's solution has been allowed to precipitate on the glass, or the receptacle has contained copper solutions. This is most easily accomplished by the rinsing with concentrated  $\text{HNO}_3$ . This precaution will obviate much trouble in immediate precipitation and prevent precipitation that would have occurred in the colorimeter cups.

(b) In many cases the concentration of the nitrogen is too great and will cause precipitation. This may be corrected by diluting the solution as much as possible before the addition of Nessler's reagent. In fact all solutions should be diluted (whether concentrated or dilute to start with) as much as is practical before Nesslerizing. The concentrated nitrogen tends to cause a too rapid formation of the colloid that is easily precipitated.

(c) The determination of urea in urine is very liable to cause precipitation because of the presence of so many inorganic salts. This may be remedied by using higher dilution of urine. This will not always solve the difficulty unless other precautions that are enumerated are taken into account. With the proper precautions there is no veritable excuse for the failure of any determination of urea in urine or blood.

(d) Much precipitation and unnecessary worry may be excluded by the use of iced distilled water in the dilution before the addition of Nessler's reagent. Warm water will invariably cause precipitation, if not immediately upon standing. Water that has attained the temperature of the room may be applicable but it will prove to be more profitable if one uses water that has been cooled in an ice bath.

(e) The addition of Nessler's reagent is of great importance. One may have good results on some days and poor ones on the next day when there seems to be no visible cause of the variation. This may be traced directly to the addition of the Nessler's reagent. This laboratory has found that the reagent may be added in one of two ways. It may be blown forcefully into the rapid whirling solution from a pipette that has a rapid delivery, or the measured amount of reagent may be poured from a cylinder into the mixture. It is important that the solution be given a strong "whirl" before the reagent is added. This is especially important when working with urine which contains a high salt content.

(f) A large number of determinations may be saved by Nesslerizing the standard

first. So if precipitation is obtained, the fault may be found and corrected before ruining the unknown.

The accuracy of the experiment does not depend wholly on the obtaining of a good Nesslerization. The result is only as accurate as the measurements of the worker. If he has properly pipetted the unknown and measured with the same care, the Nessler reagent, then he may depend on his results. But there will be no comparison if he has used graduate cylinders for the dilution and the measurements. In fact the accuracy is directly in proportion with the accuracy of the measurements.

## —R— SOCIETIES

### CLAY COUNTY SOCIETY

The annual meeting and dinner of the Clay County Society was held December 9, 1925, at the Bonham Hotel.

Dr. L. C. Bishop of Wichita gave a practical talk on Neurology. Dr. Phares of Wichita presented a paper on "Problems in Gastro Intestinal Diagnosis." Dr. Ebright of Wichita also gave a short talk.

After the program the Society held a short business meeting. Dr. Scott of Clifton was reinstated to membership in the Society, and the application of Dr. McIlvain was referred to the board of censors.

The following officers were elected for the ensuing year: President, Dr. X. Olsen; Vice-President, Dr. R. J. Morton; Secretary, Dr. E. C. Morgan; Treasurer, Dr. W. R. Morton; Board of Censors, Dr. E. C. Earnest, three years; Dr. G. W. Bales, two years; Dr. X. Olsen, one year.

Dr. Stillman was elected Delegate to the State Society.

G. W. Bale, Secretary.

### RILEY COUNTY SOCIETY

The Riley County Medical Society met at the Gillett Hotel at 6 p. m., February 8.

The following members were present: Drs. Colt, Jr. and Sr., Ross, Groody, Evans, Reitzel, Bressler, Belle Little, Seivers and Mathews. On motion it was decided that we have scientific program.

Dr. Little read an interesting paper on Diabetes in Pregnancy. The paper was discussed by Dr. Reitzel, Dr. Colt, Sr. and Dr. Colt, Jr., and Dr. Bressler. The discussion was closed by Dr. Belle Little.

Dr. Colt Jr. gave an interesting report of two cases, and Dr. Groody and Dr. Evans each reported a case.

The committee on communication with the Attorney General gave no report. The



committee was continued. The committee on advertising also gave no report and was continued.

The President made a suggestion that we invite the dentists of Manhattan to a joint meeting at some time in the future. This was taken under advisement. The meeting adjourned.

J. R. Mathews, Secretary.

#### RUSH-NESS COUNTY SOCIETY

At a meeting of the Rush-Ness County Medical Society held February 4, the following officers were appointed:

President—Dr. L. A. Latimer, Alexander, Kansas.

Vice-President—Dr. J. E. Atwood, La-Crosse, Kansas.

Secretary and Treasurer—Dr. E. N. Sules, McCracken, Kansas.

E. N. Sules, Secretary.

#### COFFEY COUNTY SOCIETY

The following officers were elected at the Coffey County Medical Society regular meeting February 1st:

President—H. T. Salisbury, M.D., Burlington.

Treasurer—G. R. Norris, M.D., Burlington.

Secretary—A. B. McConnell, M.D., Burlington.

We have too few doctors in the close proximity of Burlington to guarantee successful meetings so we include registered druggists and dentists, meet every Monday night, have supper together and talk over things of common interest such as peculiar cases (often some for demonstration) usage of serums, vaccines, special drugs, etc. This has been going on all winter and is very successful.

A. B. McConnell, Secretary.

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#### PERSONALS

Dr. Paul E. Christman has opened an office in the Schweiter Building at Wichita, Kansas.

The Winfield Courier states that Dr. E. O. Smith of that city has been confined to bed for the past six weeks.

According to the local paper Dr. Fred C. Rewarts, recently located at Hanover with Dr. F. H. Rhodes, will locate at Sedan, Kansas.

A letter from Byers, Kansas, requests that a good doctor, looking for a location, be referred there.

Dr. J. C. McClintock, one of the best

known surgeons in Kansas, who retired some years ago, received a fracture of the femur as the result of a fall a few days ago.

Dr. Foster L. Dennis has moved from Sylvan Grove to Dodge City where he is associated with Dr. W. O. Thompson.

Dr. Bruce A. Higgins, formerly of Lucas, has purchased the practice of Dr. Dennis and is now located at Sylvan Grove.

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#### MEDICAL SCHOOL NOTES

Dr. E. W. Reed of Holton, Kansas, visited the Medical School recently.

Dr. Shubert Henry, '25, who was formerly located in Wichita, has been appointed Health Commissioner of Kansas City, Kansas.

Dr. T. G. Orr, Professor of Surgery, spent the week of January 18, in Baltimore, where he attended a celebration given in honor of Dr. Dean Lewis, who was recently appointed Professor of Surgery at Johns Hopkins University.

Dr. J. J. R. MacLeod of Toronto gave a talk to the students on the History of the Development of Insulin, and the same night was speaker at a banquet at the Academy of Medicine, where he talked on New Researches in Insulin.

Dr. Charles C. Stillman of Morgansville was the guest of Dr. Major at the School recently.

Dr. H. R. Wahl attended a conference of the Society for Crippled Children at Topeka recently.

Dr. A. E. Hertzler read a paper on Goitre at the last meeting of the Western Surgical Society at Wichita.

Dr. L. B. Gloyne has resigned as Health Commissioner of Kansas City, Kans., and has gone into general practice.

Dr. R. L. Haden, Professor of Experimental Medicine read a paper on the Bacteriology of Peri-apical Dental Infection at the annual clinic of the Chicago Dental Society, January 28.

Dr. H. R. Wahl, Dean of the Medical School, attended a meeting of the American Council for Medical Education in Chicago, February 15, and 16.

Dr. A. E. Hertzler read a paper at Louisville, Ky., before the American Association for the Study of Goitre on How a Simple Colloid Goitre becomes an Adenoma.

Dr. A. L. Skoog, Professor of Neuro-Psychiatry recently presented a paper before the Academy of Medicine on Nervous Manifestations in Pernicious Anemia.

Dr. A. E. Hertzler attended a meeting of

the St. Louis County Medical Society where he presented a paper on the Classification of Goitre.

Dr. Paul Gempel has been appointed on the Gynecological and Obstetrical service and will supervise a large amount of the out-patient obstetrics.

Dr. E. J. Curran, Professor of Ophthalmology and Dr. J. L. Myers, instructor in Otorhinolaryngology attended a joint meeting of the Kansas City Eye, Ear, Nose and Throat Club with the Sioux Valley Academy of Ophthalmology and Otorhinolaryngology at Omaha recently.

Mr. Harvey Jennett, a Senior Student was recently elected to Sigma Xi for work done at the University of Missouri from which he is a transfer, on "The Hydrogen Ion Concentration as a Factor in the Wassermann and Kahn."

Dr. T. G. Orr read a paper on Fractures of Femur in Children at a meeting of the Jackson County Medical Society, February 16, 1926.

At a recent meeting of the Wyandotte County Medical Society Dr. H. R. Wahl presented a series of very interesting pathological specimens. Dr. Hugh Dwyer gave a short talk and presented an interesting case of congenital syphilitic teeth. Dr. L. F. Barney talked on mediastinal carcinoma and Dr. George M. Gray discussed the subject of complicated bilateral inguinal hernias.

Miss Lorna Robinson, a graduate of the Kahler Hospital, Rochester, Minn., has recently been appointed Social Service Nurse for the Bell Memorial Hospital and the Dispensary.

#### DEATHS

Dr. William Francisco Lee, Humboldt, died recently at the age of 76. He graduated from the College of Physicians and Surgeons, Keokuk, in 1875.

Dr. J. H. Cushenberry, Girard, Kansas, died December 19, 1925, following a long illness. He was 72 years old. He graduated from St. Louis Medical College in 1872.

Dr. Thomas H. Johnson, Kansas City, Kansas, aged 81, was shot and killed by a robber December 23, 1925. He graduated from California Eclectic Medical College, Los Angeles in 1881.

Jennie L. Edington Eddy, Marysville, Kansas, aged 57, died January 28. Dr. Eddy graduated from the Kansas Medical College, Topeka, in 1898. She was a member of the Kansas Medical Society.

#### BOOKS

Medical Clinics of North America (Issued serially, one number every other month.) Volume IX, Number IV, Tulane University Number, January, 1926. Octavo of 381 pages, with 49 illustrations. Per clinic year, (July 1925 to May 1926.) Paper, \$12.00 Cloth \$16.00 net. Philadelphia and London: W. B. Saunders Company.

There are thirty contributors to the Tulane University number of the Clinics. Bais covers the subjects of quarten malaria, pellagra, hookworm disease and amebic dysentery. Musser discusses the clinical manifestations of sprue and its relations to pernicious anemia. Hopkins has an article on the status of some problems in leprosy. Thacker presents some views on the heart in hyperthyroidism. Holmes Smith discusses the treatment of syphilis with bismuth. Browne has an article on sickle-cell anemia. Miller gives some suggestions on the nature and treatment of the leukemias. Hagood has an article on liver function and liver function tests. The contributors to this number have covered a very wide field.

Medical Formulary by E. Quinn Thornton, M.D. Assistant Professor of Materia Medica in Jefferson Medical College. Twelfth edition revised. Published by Lea & Febiger, Philadelphia and New York. Price \$2.50.

On account of the recent very extensive revision of the U. S. Pharmacopoeia the author found it necessary to rewrite this book. He has endeavored to follow the judgment of the revision committee of the Pharmacopoeia in constructing formulae. He has covered the field of medicine very well in suggesting treatment. No doubt there is a sufficient demand for a book of this kind to justify its publication. Perhaps it has its place, but it cannot fill the place of that broader knowledge of medicine which eliminates the need for ready made formulae.

Ultra-Violet Rays in the Treatment and Cure of Disease by Percy Hall, M. R. C. S. (Eng.) Published by C. V. Mosby Co., St. Louis. Price \$3.75.

Considerable interest in the subject will lend encouragement to the publication of books along this line, but not all of them will afford convincing data derived from extensive clinical experience. The author establishes a logical basis for the therapeutic application of ultra-violet rays and has gone into considerable detail in the description of apparatus, technic, etc. in the treatment of various conditions. The book is not very large but is comprehensive.

Scoliosis, rotary lateral curvature of the spine, by Samuel Kleinberg, M.D., Assistant surgeon New York Hospital for Ruptured and Crippled etc. pub-



lished by Paul B. Hoeber, Inc. New York. Price \$6.00.

The author first takes up the anatomy involved and then discusses extensively the classification of scoliosis by types and degrees, and the pathology. Under etiology the various factors responsible for these deformities are described. The most important feature of the work is the description of the methods used for the correction of these conditions. Too little attention has been given by the general practitioners to these cases which are sufficiently common in every community.

**Abdominal Operations.** By Sir Berkeley Moynihan, K. C. M. G., C. B., Leeds, London, England. Fourth edition, entirely reset and enlarged. Two octavo volumes totaling 1217 pages, with 470 illustrations, 10 in colors. Philadelphia and London: W. B. Saunders Company, 1926. Cloth, \$20.00 net.

..It has been ten years since the appearance of the last edition of this work. In this edition the work has been virtually rewritten. It begins with preliminary preparations and sterilization; then goes into the actual technic, carries through the complications and sequelae, right on to after-treatment. In the chapters on complications and sequelae, Sir Berkeley gives several tables showing, from thousands of cases, the complications that may follow operation. Numerous case histories, quoted from the author's own practice and those of other distinguished surgeons, give the book a clinical character that sets it apart from the usual book on abdominal surgery. One of such extensive experience in discussing a subject about which he has learned the facts through his own observations, always receives the attention which bespeaks confidence. No greater favor can be extended by such men than the putting of the results of their experience in a form available to the profession. This is a most comprehensive treatise on abdominal operations, the text is clear and easily understood and it is thoroughly illustrated.

**Pygmalion or the Doctor of the Future,** by R. M. Wilson, M. D., Ch. B. Published by E. P. Dutton & Company, 681 Fifth Ave., New York City, New York. Price \$1.00.

The author has built up a rather interesting theory of the future of medicine and has based his conclusions on the hypothesis that symptoms are signs of altered reactions to life, and not of disease. Symptoms are caused by exaggerated stimuli or increased sensitiveness to stimuli and by incomplete reactions. The doctor of the future will study his patient with a view to determining these reactions to ordinary and extraordinary stimuli; and his treatment

will consist largely in normalizing the stimuli and the reactions.

### The Care of Syringes and Needles

The manufactures of the Luer B-D Syringes have published a little folder in which is described the sizes of syringes and needles to use for various purposes and have given some valuable instructions for the care of both syringes and needles. A few of the most timely suggestions are extracted for the benefit of those interested: "The life of the Luer Syringe may be greatly prolonged if after use it is washed in warm water or cleaned with alcohol or ether. This will prevent the barrel and plunger from sticking. Luer B-D Syringes may be sterilized by dry heat or boiling. For best results, separate barrel and plunger and if sterilized by boiling, the syringe may be put directly into hot water to hasten the sterilization. They have been heat treated to prevent breakage due to sudden changes of temperature. Do not sterilize in distilled water or any solution containing sodium bicarbonate as both will cause disintegration of the glass. To remove stains from the Luer Syringe soak in concentrated nitric acid, wash with warm water and with alcohol."

"Yale Quality needles are made in every variety and size for which there is a demand. They are made from seamless high carbon steel, also from the non-rusting metals such as gold, nickeloid and platinum-iridium. As to the relative merits of these metals it is largely dependent upon the purpose for which they are to be used.

Needles made of high carbon steel and properly tempered will take a keener cutting edge than any other metal. They also possess greater strength and stand up better in use. That is why most physicians prefer them.

Platinum-iridium needles, of 70% platinum and 30% iridium, such as we make, are quite hard, hold their points well and will not corrode or lose temper in the flame, provided they are not heated beyond a dull red color. They are also unaffected by chemicals. Platinum-iridium needles may be resharpened as often as is necessary, and if used with proper care, will give good service.

Gold and nickeloid needles are rustless and non-corrosive for most uses. They must, however, be sterilized by boiling as they will not stand the flame; the metal being slightly softer than steel or platinum-iridium, the points are more easily dulled.

After using steel needles, they should be

rinsed in alcohol or ether and dried, either with compressed air or by the use of the B-D Brunet Needle Drier. A wire dipped in oil or vaseline should then be inserted. Steel needles treated in this way will last much longer and will not rust.

When using Platinum-Iridium needles, the following caution should be observed: When sterilizing in flame, heat to a dull red which is sufficient to kill any germ life. Long continued excessive heat renders the needles brittle. Avoid lateral pressure as far as possible while introducing, as bending back and forth soon weakens the walls of the needle and causes it to break or leak.

Frequent honing of steel, platinum-iridium, gold and nickeloid on an oilstone will keep the points smooth and increase their satisfactory usefulness.

Becton, Dickinson & Co., Rutherford, N. J., will gladly send a copy of the pamphlet on request.

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### 12th Annual Meeting of Medical Women's National Association

The Twelfth Annual Meeting of the Medical Women's National Association will take place April 18 and 19, at Dallas, Texas, in conjunction with the American Medical Association meeting.

The headquarters of the M. W. N. A. are the Hotel Baker. Dr. May Agnes Hopkins, Medical Arts Bldg., Dallas, Texas, is the chairman of the Committee on Arrangements.

Women intending to go to this meeting should promptly make reservations either through Dr. Hopkins or directly at the Baker Hotel, as there will be a big crowd there. Hotel rates are reasonable, a double room with bath averaging \$6.

The terms for railroad transportation should be looked up in the A. M. A. Journal, but in many places where there are large numbers of members of the Medical Women's National Association, special cars for the women may be run.

Medical women passing through New Orleans are specially invited to stop over there and will meet with a cordial welcome from the New Orleans medical women, represented by Dr. Elizabeth Bass, 3513 Prytania St., who is president of the Women Physicians of the Southern Medical Association.

The Texas women, cooperating with the chairman, Dr. Hopkins, are making most attractive arrangements for the meeting. All medical women, whether members of

the M. W. N. A. or not, are most cordially invited to participate in this meeting.

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### Research Results

Recent research in the field of medicinal chemistry, coupled with scientific physiological and clinical investigation is effecting profound changes in the practice of medicine.

Discoveries have already been announced which are changing the methods of treating diabetes, high blood pressure, and syphilis. So promising is the research work now being carried on in universities, and by large pharmaceutical manufacturers, that further important discoveries may soon be expected. It is not too much to hope that definite discoveries may even be made in the field of cancer and tuberculosis.

During the past year, announcement of the discovery of several new and important medicinal chemicals has been made by the Research Department of the Abbott Laboratories, North Chicago, Ill. Among these discoveries are Butesin Picrate, a new chemical body, combining both anesthetic and antiseptic properties.

Other important research results from the Abbott Laboratories are Butyn and Benzyl Fumarate, both of which are fully described in "New and Non-Official Remedies."

During the past ten years the following important Council-Passed medicinal chemicals have been manufactured by, and added to the list of the Abbott Laboratories: Anesthesin, Acriflavine, Barbital, Chlorazene, Dichloramine-T, Cinchophen, Neccinchophen, Neutral Acriflavine, and Procaine.

These notable additions to the list of American-made, medicinal chemicals promise much for the future cordial relations between scientific, manufacturing chemistry and progressive medical practice.

—R—

### The Growing Importance of Gelatine in Infant Feeding

Some time ago, Dr. Joseph Leidy, of Philadelphia said: "The combination of gelatine and milk in infant feeding was long used by my father and the late Dr. W. Pepper. I have continued to use it during the past thirty years, and am of the opinion that it gives results when many other combinations fail."

In recent months the growing interest of the medical profession in gelatine has been noticeable. Doctors are reporting gratifying successes in preventing such infant ail-



ments as milk colic, regurgitation, vomiting, diarrhoea, excessive gas formation and constipation by 1% addition of gelatine to the milk diet.

Thomas B. Downey, Ph. D., Fellow of the Mellon Institute, Pittsburgh, has by standard feeding tests, determined that the addition of pure, plain unflavored gelatine increased the nourishment obtainable from milk by about 23%.

In discussing the digestibility of milks, especially by infants and young children, Alexander and Bullowa have pointed out that the protein content may not be considered as a unity because it is composed of two proteins casein and lactoalbumin with entirely dissimilar properties. Casein is an irreversible colloid exceedingly susceptible to coagulation by acid and rennin, while lactoalbumin is reversible and serves to protect the former.

Analysis shows that mother's milk contains a high proportion of lactoalbumin, the casein being adequately protected. Mother's milk is resistant to coagulation by acids and rennin and its greater acceptability as the food for the infant is reflected by the low mortality where the young are breast fed. On the contrary, cow's milk contains a high proportion of casein and relatively little lactoalbumin; it is poorly protected. In consequence, the casein of cow's milk is very susceptible to coagulation by acids and rennin. The mere coagulation of the casein is not the whole story, because the coagulum carries down much of the fat present, yielding masses that have a tendency to cohere and are of a texture that is quite resistant to penetration by the digestive juices. The voiding of such masses occurs too frequently in artificial feeding; nutrients are lost to the organism and it is quite probable that decomposition products of an undesirable nature are formed within these undigested curds.

This is in no way a reflection on the great nutritive value of cow's milk, which is indispensable but simply emphasizes the deterrent condition it meets in the human stomach which must be neutralized to insure the complete assimilation of the milk nutriment.

From this viewpoint an obvious modification in artificial feeding is the protection of the unstable casein by the addition of suitable protective colloids.

It is of interest to give careful attention to gelatine in this place. As previously mentioned, its colloidal protection is of the highest order. It is also an excellent em-

ulsifying agent and may function as such in either an acid or an alkaline medium. It is a common product of exceptional purity, and is an easily digested protein which is readily combined with milk. In combination with milk, the protein content is increased, food value is increased, volume is not appreciably increased and digestibility is increased. Theoretically the employment of gelatine in the child dietary is sound, and laboratory experimentation and clinical experience substantiate these conclusions.

The approved method of combining gelatine with milk is as follows:

Soak, for ten minutes, one level tablespoonful of pure, unflavored, unsweetened gelatine (Knox) in one-half cup of cold milk taken from the baby's formula; cover while soaking; then place the cup in boiling water, stirring until gelatine is fully dissolved; and add this dissolved gelatine to the quart of cold milk or the regular formula.

It must be remembered that there is a great difference in gelatine. Realizing the importance of absolute purity in any gelatine that is combined in milk or used in any way in the dietary, the laboratories of the Charles B. Knox Gelatine Company maintain a strict and constant control of the production of Knox Sparkling Gelatine. No sweetening, artificial flavor, or coloring, is ever added to this product.

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In spite of the disappointing results from the use of "Sanocrysin" in animal tuberculosis in the careful experiments carried out for the Hygienic Laboratory by Theobald Smith, Wm. H. Park and E. C. Schroeder, it is possible that some renewal of interest may arise as a result of recent papers by European physicians on the use of sodium-gold thiosulphate in human cases of tuberculosis. One naturally views with doubt the value of these reports, since these physicians have discarded the theories originally advanced and, to a large extent also, the use of the anti-toxic serum. They thus place the substance in the category of the gold salts used in the therapy of tuberculosis with which a long record of varied experiences is available. It is possible that the use of gold may have some value, but there is no evidence at hand today; hence the wisdom of American physicians in awaiting definite proof of action in animal tuberculosis before using it in the human disease will save much suffering and distress. (Jour. A. M. A., Feb. 13, '26.)

### Criticism of Meat and Food Inspectors Unjustified

Senational press items based on conclusions recently made public by the National Civil Service Reform League are obviously unfair to Federal meat inspection, pure food law enforcement, and other protective services of the United States Department of Agriculture. This was the unanimous opinion of high department officials who expressed regret over the League's sweeping conclusions to the effect that public health is not properly safeguarded by inspection systems and in which fully trained and qualified Federal inspectors were subjected to the same criticism as local political appointees assigned to inspection work.

#### MEAT INSPECTORS SPECIALLY TRAINED

Without questioning the right of any organization to announce its opinions freely, department officials considered the press reports as extremely misleading to the public. "The facts regarding Federal meat inspection are briefly these," Dr. John R. Mohler, Chief of the Bureau of Animal Industry of the department, stated. "Veterinary inspectors engaged in the work must be graduates of a four years' course in an accredited veterinary college, then must pass a civil service examination, and in addition are especially trained for their duties. The inspection begins when live animals are received for slaughter, includes a thorough ante-mortem and post-mortem examination, then a rigid inspection of products such as smoked and cured meats, lard, and by-products, and a final inspection when meats and their products leave the inspected establishments. Owing largely to the skill and ability of livestock producers and favorable conditions for stock growing in the United States, the vast majority of the animals inspected are healthy. However, during the last fiscal year approximately 100,000,000 pounds of meat was condemned by Federal inspectors.

#### SERVICE IS STRICTLY PROFESSIONAL

The regulations under which inspection is conducted were established by a commission of physicians, veterinarians, sanitarians, and qualified public officials chosen with special reference to protecting public health. Federal inspection is maintained at more than 800 establishments, and the inspectors in charge will gladly explain the work to visitors. The League's assumption that the meat-inspection service, by reason of being in the Department of Agriculture, might be biased in favor of farmers or any other class, is a false assumption and is en-

tirely unwarranted. Federal meat inspection is strictly professional and, in justice to the several thousand employees in this important service, I may state that they are loyal to their public trust, self respecting, and underserving of the sensational criticisms made. Some months ago the Bureau of Animal Industry furnished the National Civil Service Reform League with certain information asked for and was ready to assist it in obtaining authentic information, but no further assistance was requested.

#### INSPECTION STAMP IS GUIDE TO PUBLIC

Since Federal meat inspection applies only to meats and their products handled by establishments doing interstate or foreign business, there is some basis for the League's conclusions regarding non-federally inspected slaughter. But as the latter is only about a third of the total, sweeping conclusions were not justified. Federally inspected products can be readily identified by the familiar inspection stamp on fresh meat and by the labels of canned and package goods.

Department officials in charge of the enforcement of the Federal food and drugs act and other inspection duties of similar character note the fact that the publicity given out by the League apparently does not apply to Federal pure food law enforcement, but that the charges of inefficiency are directed against State and municipal enforcing authorities. These department officials emphatically express their disapproval of charges of such a sweeping character based upon isolated observations. In the light of their own knowledge, obtained through cooperative relationships of many years standing, they say that the vast majority of State and municipal enforcing officials are honest and efficient. Many of them are specially trained for their duties and have professional attainments of a high character.

The officials of the Bureau of Chemistry, which enforces the Federal food and drugs act, note that the report of the League upon which the press item was based, although 134 pages in length, contains but very brief references to the work of the Bureau of Chemistry, and that these statements are extremely general and in many respects inaccurate and entirely misleading. It is a fact that all employees enforcing the Federal food and drugs act are appointed under Civil Service rules and that appointments of inspectors are now made only from registers obtained from the Civil Service Commission of men who have been graduated



CARL A. MUEHLEBACH, Pres.

CARL L. MUELLER, Vice Pres.-Mgr.

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—————R—————

### Our National Doctor's Bill—The Public's Debt

A cursory survey of the gratuitous service given by physicians through medical institutions in the Greater City of New York, based upon the number of "free hospital days" aggregates \$16,000,000 annually. This figure by no means indicates the total bill that the city controlled and private hospitals would have to pay if the doctor, like other professional men, demanded and received payment for each and every service performed. It is based upon returns from but 107 of the 140 odd medical and surgical serving institutions giving some portion of charity service.

Evaluating the physician's service nationally upon the hypothesis that outside New York City but a pro rata service in quantity is given equal to 50%, and assuming that each "Hospital Days" service was paid for at the rate of \$3.00 per day, the nation's bill due the doctor would be more than \$135,000,000 annually.

A survey made within the City of New York (by no means complete because many of the hospitals had not their figures at hand for this quick computation) shows the following:

Institutions in New York are roughly grouped into five classes:

Group one and two are the city—controlled hospitals—those operated and maintained by the City Government—and are composed of fifteen institutions, ten of which are under the management of the Department of Public Welfare; the others, known as Bellevue and Allied hospitals, include five institutions.

The third group are those supported in part by the Catholic Charities, of which there are twenty-two institutions. The fourth group is the United Hospital Fund group, which is financed annually, partly through drives, representing fifty-six institutions. The Independent Hospitals into which class are gathered all those institutions not included in the above four groups compose the fifth group. There are forty odd institutions in this latter group, of which number fourteen have made returns for the purpose of this survey, the other four groups being complete in their returns.

These groups show the following:

Department of Public Welfare group (10 hospitals) 1,879,871 free days.

Bellevue and Allied Hospitals (5 hospitals) 859,232 free days.

Total City controlled hospitals 2,739,103 free days.

Catholic group (22 hospitals) 322,610 free days.

United Hospital Fund group (56 hospitals) 1,563,658 free days.

Independents (14 hospitals) 395,131 free days.

Total 107 hospitals, 5,020,502 free days.

The total displayed above, 5,020,502 "free hospital days" represents the number of free days service given to free charity patients in the city's hospitals in a year.

Going a step further, it is no exaggeration to say that each patient is visited at least three times in each "hospital day" by a physician who receives no compensation whatsoever. If we compute each visit of the physician as being worth a dollar, we find that the bill would be \$15,061,506 per annum. This includes the services of the consulting and outside attending physicians and surgeons, together with the services of the interns, but it is all medical or surgical service.

In taking three dollars as the equivalent of service of the consulting, attending and interne physicians, we feel we are placing the compensation at a price so far below normal for the compensation for a similar service outside the institutions as to prevent criticism or cavil of any kind.

For, when it is considered that these include the best medical and surgical brains in the country, the most expert men in the profession, who, in some instances are known to charge fees as high as \$5,000 for an operation, and others who charge as low as \$25 for a consultation, and then again those who charge no more than \$3 per visit to outside patients, we feel that we have been almost unfair in the computation of the doctor's bill; but we will let it stand at that figure to show the prodigious sum that annually would be due the doctor if, as I have stated before, he demanded and secured even this small measure of pay for his services in public institutions.

#### NOW FOR THE NATIONAL BILL

As New York City represents about 1-18th of the total population of the United States, the national bill would, therefore, be eighteen times that of the City of New York, but we will not use that figure, because it might be argued by some that the measure of service given throughout the rest of the country is not in the same proportion either in quantity or quality.

Then, there are those who may even claim



that the service outside Greater New York by physicians, through similar institutions, is greater proportionately both as to quantity and value.

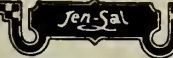
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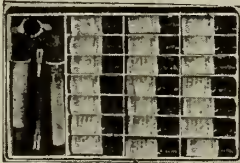
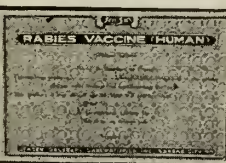
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### Some Observations on Artificial Pneumothorax

ROLAND G. BREUER, M. D., Norton, Kansas  
Kansas State Sanatorium for Tuberculosis.

Read at Annual Meeting of the Kansas Medical Society at Topeka, May 6th and 7th, 1925.

The purpose of this paper will not be to attempt to add anything to the subject of pneumothorax, but merely to discuss this procedure as carried on at the Kansas State Sanatorium for Tuberculosis, and to present some deductions drawn from our own personal experience and observation. The following points will be touched upon:

1. Definition and history.
2. Care in selection of cases.
3. Continuous supervision during procedure.
4. Anesthesia.
5. Slow collapse.
6. X-Ray checkup.
7. Education of patient.

#### Conclusions.

By artificial pneumothorax is meant the filling of the potential pleural sac with air by artificial means. The artificial means in this case is through a needle inserted into the potential cavity. Artificial pneumothorax was first induced by C. Forlanini of Pavia in 1894, and independently by John B. Murphy of Chicago in 1898, but the method was not taken note of until Brauer, Spengler, and others took it up in Germany. At present it is one of the recognized methods of treatment of certain cases of pulmonary tuberculosis (Fischberg). At first pure nitrogen was used, since this gas is inert. However, because of the expense, of late years atmospheric air is used exclusively.

The therapeutic effect of pneumothorax is the resultant compression of the lung. The difficulty of healing a lung carrying on active respiration lies in the fact that the alternate contraction and expansion of the pulmonary alveoli more than 12,000 times a day prevents healing except over long periods of time. Lack of immobilization of a fractured bone often prevents any union at all. Similarly with the lung.

Especially with cavitation, the lung tissue is distended beyond its natural protective elasticity; nature throws a heavy egg-shell-like wall of scar tissue about the periphery of the cavity, and thus further prevents coaptation of its walls. Secondary infection steps in and makes any sort of healing impossible. Spread of the cavity, however, is not prevented by these things. As the negative pressure in the pleural cavity is reduced or made positive by the introduction of air, the natural elasticity of the lung tissue collapses of the lung tissue. The scar tissue walls of the cavities are collapsed only after either positive pressure of high degree or long-continued positive pressure of slight degree. The former method is very dangerous, and is not used in our technique. As the lung and its cavities is collapsed, the pus is squeezed from it as from a sponge. With a sufficient period of rest, the cavities granulate over and their edges approximate. The success of the whole treatment depends, of course, upon whether or not the remaining lung will carry on the function of respiration adequately and not break down under double duty, for in every case both lungs are affected to a greater or less degree. In the case of using artificial pneumothorax treatment to control severe or continued hemorrhage, with or without demonstrable cavitation, the same principles hold—the collapse compresses the soft-walled blood vessels and allows clotting and thrombosis of the severed vessels.

During the past two years seven cases out of a total of 260 patients admitted have been observed also two outside cases. This is a percentage of 3. One of these was continued from before my association with the institution; one was admitted with a collapsed lung, upon whom no further collapse was done because of the advanced condition of the functioning lung; five were cases begun by me. The others, outside cases, relatives of a patient and an employee, were followed for some months. Both of the latter died suddenly; one during a reinjection of air, and the other from lack of care with consequent breaking down of the functioning lung. Of the seven cases directly under our care, five are living; one (the continued

case) has recently left to take up a course of tuberculosis nursing; one has carried a complete hydrothorax for a year with danger of complete edema of the lungs; two have died of rapid advance of the disease in the functioning lung; and one has made astounding gains in weight and physical condition; one has been allowed to reexpand with complete filling of the cavity and disappearance of the tubercle bacilli from the sputum. The remaining case is very recent.

To date there has been no fatality as a result of the procedure, at our institution. We feel that a partial explanation of this success has been due to the following points in this discussion.

Great care is exercised in the selection of cases suitable for pneumothorax procedure. The case is placed upon routine treatment for from two months to six months, and the usual factors of rest, diet, fresh air, and removal of excess load allowed their chance. It is only after these means fail or repeated hemorrhages take place that pneumothorax treatment is resorted to. As a preliminary, the pulse and temperature record for the entire stay in the institution are reviewed and carefully checked over. The procedure, with its limitations and chances for sudden, fatal termination, is explained in part to the patient and fully to the relatives. No guarantees of success are made, and the full approval and co-operation of the relatives and patient are demanded. A stereoscopic roentgenogram of the chest is taken and the advisability of carrying out the procedure is again carefully reconsidered.

What is the criterion by which a case is selected for this procedure? Simply this: that we must have fair assurance that the uncollapsed lung will be able to take over the full function of respiration without breaking down, and that the heart is not so toxic as to give way under the added toxemia which is an adjunct to the beginning of the collapse. In other words, the lung for collapse must be too impaired to get well, while the functioning lung must be too well to become impaired beyond function.

The patient is kept under continuous supervision during the entire process of collapse. The first few weeks are spent in bed; the first twenty-four hours after injection of air the patient is not allowed to leave the bed for any reason whatever. The pulse, temperature, and respiration are carefully watched. All activities are rigidly supervised. Activity is gradually added and increased as the added toxemia is eliminated and the physical condition improves.

Pleural shock has been unknown in our

cases. One reason for this, we believe, is careful and minimum anesthesia. The potential pleural cavity is lined with a serous membrane, which absorbs cocaine very rapidly, with consequent danger of collapse if any amount be used. Our practice is to anesthetize chest wall carefully down to the pleura, but not the pleura itself. The pain of the practically instantaneous passage of the needle through the pleural membrane is negligible, and the patient suffers no shock from it. Adrenalin is used in conjunction with the local anesthetic.

Another reason for the absence of shock, pleural or other, we believe, is the fact that the lung is collapsed very gradually. The maximum amount injected in the beginning instillations is never over 400 cc., generally being but 250 or 300 cc. The first instillation rarely exceeds 200-250 cc. While collapse is taking place, instillations are done from one week to three weeks apart, instead of one to three days apart. This gives the patient a chance to eliminate the toxemia consequent to the evacuation of the cavities, and also to compensate more easily the pushing over of the mediastinum as a result of decreased negative pressure on the collapsing side. The average time for collapse is from four months to almost a year.

Where the patient's condition will stand the physical exertion each instillation is checked up by an x-ray picture. This enables us to check up on the collapse of the lung and its cavities, as well as to check up on the functioning lung and see whether or not it is standing up under its added burden. If the patient is too weak to be moved in the beginning, the x-ray check-up is deferred until improvement takes place to such a degree as to enable him to be carried to the x-ray room on a stretcher and later walk over by himself. At no time is the patient's life jeopardized by impatience to see the progress made by means of the x-rays. Where a bedside x-ray unit is available, it would be possible to check up each and every instillation very quickly and easily. Such a unit will be installed in the new receiving pavilion at our institution.

During all this time, education of the patient is under way. The danger to the functioning lung is explained, as well as the necessity of decreased activity, even though the temperature and pulse are dropping and the weight increasing. The importance of added care in the observation of rigid routine is stressed. An attempt is made to visualize to the patient that, as his air-space is cut down by at least one-half; so



must his physical activity be correspondingly decreased.

In conclusion, let it be said that we consider pneumothorax procedure to be a last resort measure, usually; to be kept in reserve until the other means at our command have been tried and have failed. However, certain other cases merit the consideration of the treatment early and it has been employed at times under such circumstances.

—R—

### Some Successes and Failures in Obstetrics

R. A. WEST, M. D., Wichita

Read at Annual Meeting of the Kansas Medical Society at Topeka, May 6th and 7th, 1925.

In presenting this discussion, the effort has been made to set some standard by which we may be able to judge success or failure in an individual case. Notwithstanding the fact that the United States stands near the foot of the list in its foetal and maternal mortality, we have made and are making some striking advances in the practice of obstetrics. The mortality rates of the larger hospital centers being much lower than those of the country at large, it is felt that when the more advanced methods of teaching and practice have had time to disseminate more thoroughly among the profession at large, we as a nation will more nearly assume our rightful place in the mortality lists. Even now it is felt that a higher standard should be set than was thought possible a few years ago, as regards the patient's physical and mental condition, the condition of the uterus, cervix, perineum, abdominal wall, and breasts. Taken as a whole, however, our results show little enough to be pointed to with pride compared with the results obtained. Say for instance in surgery or medicine. Sometimes, of course, we do have cases and we hope an increasing number of them, which we may honestly call successes and occasionally cases which we may look upon with pride.

Now, what should we consider as an ideal end result in obstetrics? Something which we should at least strive for and hope to attain: First, this patient should have non-pendulous breasts without striae. She should have abdominal muscles with good tone, capable of maintaining her abdominal contents in proper position without artificial support after the sixth week. The skin of her abdominal area should be free from striae. She should have a perineum without relaxation, a vulva without gaping, free from beginning cystocele and rectocele. The levator and cunici muscles should be capable of active construction

upon the examining finger. The cervix should be without laceration and the uterus normal in position and size. In the effort to make this discussion somewhat easier to follow, we will endeavor to show by means of some lantern slides how we strive to attain the above described end results.

As soon as the breasts begin to become engorged, sometimes as early as the third or fourth month, a binder is applied in the manner shown, loosely enough to prevent constriction of breast tissues or nipples, fashioned with a pocket for each breast which is supported by a firm shoulder strap. This maneuver serves to prevent sagging of the breasts and obviates the possibility of constriction of the venous flow of blood which is prone to cause poor function of the lactating glands and is probably the cause of many cases of cystic mastitis later in life. This type of binder is worn throughout the pregnancy and lactating period and until the breast tissue has resumed its normal form. The nipples during pregnancy are bathed each day in a fifty percent solution of alcohol and boric acid. If harsh and dry, olive oil is used. At all times a piece of absorbent cotton is placed over the nipples under the binder to prevent irritation.

The care of the abdominal wall is very important if we wish to prevent uterine displacement after pregnancy. As early as the fourth or fifth month the patient is fitted with a maternity corset, similar to the one shown, our purpose being to support the weight of a heavy abdomen from the lumbo-sacral region. This prevents backache because there is less disturbance of the weight bearing line and hence less trauma to the sacro-iliac joints. This also prevents undue tension upon the muscles of the abdominal wall thereby maintaining a better tone for expulsive effort during labor and for visceral support in the early post-partum period.

In addition to abdominal support, massage is also applied. The technique of McPheter is used, that is, stretching the skin by pulling it apart with the fingers of the two hands in the manner shown, the entire surface of the abdomen being stretched twice daily, followed by a gentle massage of the skin with some lubricant.

In the post-partum care of the abdominal wall, we have the same factors to consider, namely, that of support and muscle tone, because no matter how well cared for, the muscles are sure to lose some of their tone during the course of pregnancy. Therefore,

as soon as the patient is able to be out of bed, she is again fitted with an abdominal support, either a binder as shown here or a good corset to be worn until such time as her abdominal muscles are capable of supporting her viscera without sagging. In order to regain the muscle tone as early as possible, the patient is instructed to take exercise. First, is the head exercise, ten or fifteen times twice daily, lifting her head touching the sternum with her chin. She is also instructed to practice deep breathing exercise three or four times a day. Later, when the patient's strength has returned to normal, she is instructed to take as much of the ordinary setting-up exercises as pos-

sible. These exercises are practiced twice daily to the point of fatigue and when properly carried out will usually restore the muscle tone in four to six weeks.

The next important organ to be considered is the uterus. Beck of Brooklyn found that 40 percent of women cared for in the ordinary manner returned six weeks postpartum with uterine displacement. Of this number practically 100 percent were morbid and a large number were forced into surgery in later life. So we seek to protect the patient from having a retroverted or retroflexed uterus by a series of maneuvers. First, the patient is instructed to spend only one-fourth of the time on her back, the

TABULATION OF THE LAST 100 CONSECUTIVE CASES WHICH WENT THROUGH THE OFFICE.

	Primary Union		Failure		Gaping Vulva		Good Contractibility		Fair Contractibility		No Contractibility	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Perineotomy on 57 Primipara-----	56	98	1	1.7	4	6	48	66	7	12	2	3
9 Primipara with no laceration or 1st degree -----	--	--	--	--	9	100	2	22	3	33	4	44
4 Multipara with previous perineal repair -----	4	100	--	--	--	--	4	100	--	--	--	--
30 Multipara without laceration with or without previous lacerat'n -----	--	--	--	--	24	80	8	26	9	30	13	43

	Position of Uterus Good	Corrected Manually and with Pessary	Failure
100 Multipara and Primipara 4 to 6 weeks postpartum -----	73	23	4
	Primary Union	Non-Union	Percent of Failure
38 cases of cervical repair. (Primipara). -----	35	3	8

#### Breasts 6 Weeks Postpartum

	Non-Pendulous		Pendulous	
	No.	Pct.	No.	Pct.
Primipara 66 -----	54	82	12	18
Multipara 34 -----	13	38	21	61

#### Abdominal Wall 6th Week Postpartum

	Muscle Tone Good		Muscle Tone Poor		Abdominal Striae	
	No.	Pct.	No.	Pct.	No.	Pct.
Primipara 66 -----	63	95	3	45	8	12
Multipara 34 -----	28	82	6	17	28	82



other three-fourths being spent on either side or in the prone position, thus keeping her off her back at least three-fourth of the time, continued from the seventh or eighth day post-partum until four to six weeks. The patient is also instructed to guard against allowing the bladder to become over-distended, because a full bladder will often times push the uterus over in a retroverted position. On the eighth or ninth day the patient is placed in the knee-chest position for five minutes night and morning to be continued until the post-partum examination. She is also instructed to practice the kangaroo walk. These two maneuvers are very important, especially the latter because the rocking motion imparted to the pevis in this walk will often times dislodge a uterus caught behind the promontory.

About 20 percent of patients will return, however, at the end of six weeks with the uterus still in a posterior position. These women are corrected manually, under anesthesia if necessary, and the uterus supported by a properly fitting pessary.

If the patient carefully follows these procedures and an immediate repair is made of cervical laceration at the time of confinement, the individual should in a large percentage of cases remain free from any morbidity or disturbance due to the uterus.

We now come to the last, but by no means the least important structure to be protected if we wish to have a successful outcome, that is, the perineum. We use the deep perineotomy of Dr. DeLee in practically every primipara whether normal or operative, because it is found that even though no skin or mucous laceration is visible, there will undoubtedly occur trauma of the fascial structures and muscles of the pelvic floor, which will later produce relaxation of the birth canal, with cystocele and rectocele, which in a large percentage of women cause morbidity and later in life require surgery. This procedure not only protects the mother's perineum but also undoubtedly prevents trauma to the infant's head, obviating many mild and severe cerebral hemorrhages, which as you all know, cause most of the cerebro-spastic paralysis in children.

While there is nothing original in any of the procedures herein described, I feel that by adopting these measures, taken from the teaching of our obstetric leaders we form a rational regime which when followed with diligence will produce better results than we have heretofore thought possible.

Another point to be considered is that

this is not exclusively a hospital procedure, better no doubt in the hospital, but entirely possible in the home and I honestly believe it is at least one solution to the problem of better obstetrics in the United States, which will lessen to some extent the number of morbid and incapacitated women, we see following delivery.

There are, of course, exceptions to every rule and we find some women ill adapted to child bearing, this ill adaptation in many cases being the result of some error in management of pregnancy or delivery at the time of her birth. These women will show various conditions of morbidity, no matter how well cared for. But as a general rule, I do not believe that because a woman has had a baby or two, it is necessary for her to have these morbid conditions, due to sagging abdomen, relaxed perineum, lacerated cervix, or misplaced uterus, any or all of which will very likely lead to a certain amount of ill health in later life.

—————R—————

### Traumatic Glycosuria and Its Relation to Diabetes Mellitus

WILLIAM C. MENNINGER, M. D., Topeka

Routine urinalysis on accident cases frequently reveals a glycosuria. This discovery often leads to perplexities as to whether this is an old and hitherto undiscovered diabetes or a newly precipitated diabetes, or only a glycosuria and not diabetes at all.

#### TRAUMATIC DIABETIS

Many studies have been made of diabetes to determine the nature and frequency of trauma as a cause. Diez<sup>1</sup> found trauma present in the history of two per cent of a series of 4,068 cases of diabetes and 5.6 per cent in a second series of 669 cases; Cantani<sup>2</sup> noted a history of trauma in 10.25 per cent of 1004 cases; Griesinger<sup>3</sup> in 5.7 per cent of 225 cases; Frerichs<sup>4</sup> in 2 per cent of 400 cases; Seegen<sup>5</sup> 1.4 per cent of 938 cases; Kuelz<sup>6</sup> 5.6 per cent of 692 cases; and Ebstein<sup>7</sup> 1 per cent in 116 cases. However many of these studies have been made on case histories and do not show a close relation between the actual trauma and the diabetic onset. The great majority of such cases fail to prove the absence of diabetes before the trauma. Sometime subsequent to the trauma which itself may bring the patient to the examination, diabetes is found and the trauma is then assumed to have played some causative role in the production of the diabetic condition.

Kausch<sup>8</sup> in an excellent review of a large number of cases which he had collected up

to 1904 is skeptical of any relation between diabetes and trauma. Ebstein<sup>7</sup> analyzed the cases of "traumatic diabetes" which he could collect and found that half of these had received injuries to the head. Rosenberger<sup>9</sup> also gives a long review of the subject, citing many cases, and including an extensive bibliography on the subject. Joslin<sup>10</sup> maintains that if trauma were a factor in the causation of diabetes, the war would have shown it; however in 40,000 soldiers returning through the hospital center at Mesves where he was a consultant, and in which the urines were systematically examined, only two cases of diabetes came to his attention. In his private series of cases, only two presented a definite history of trauma immediately preceding the disease. In the first, the patient observed the first symptoms of diabetes directly after being injured by a cow. He was first seen on October 25, four weeks later, and died in coma five months after the onset. No record of previous urinary examination exists. The second case was seriously hurt in his back in a football game in the fall of 1913, and became unconscious. A broken neck was suspected. In the following January he again had a serious fall in the woods and again injured his back, so that he was incapacitated for three weeks. At the expiration of this time he observed that his mouth was dry, and in February, sugar was found in his urine. This case, too, ran a rather severe course and the patient died six years after onset in coma.

There is then, despite the many studies that have been made, little convincing evidence that there is any direct relationship between diabetes mellitus and trauma as a cause. While it may not be the cause, trauma unquestionably may serve indirectly to increase the severity of diabetes. This may be illustrated by a brief case report:

*Case No. 1—*

Mrs. J. A. C., age 57, came to us first in June, 1921, with the symptoms of polydipsia, nocturia of four or five times, weakness, shortness of breath, and an unusually heavy appetite, a three plus test for glucose in her urine, and a blood sugar which ranged slightly above normal. She co-operated poorly for a period of nearly two years both with her diet and her general care. A glucose tolerance test made in June, 1923, showed a fasting blood sugar of 520 mg. which rose in the first hour to 750 mg. returning to the starting level at the end of the fourth hour. A second tolerance test made in April, 1924, after persistent

dietary regulations, showed a fasting blood sugar of 240 mg. which rose to a maximum of 585 mg. at the end of the second hour, returning to 320 mg. at the end of the fifth hour. She was hospitalized for a period and subsequently was kept on a very rigid diet which permitted her to regain a fair state of general health without using insulin. In February, 1926, she was struck to the pavement in an automobile accident, sustaining several fractured ribs and probably a severe skull trauma although x-ray failed to reveal any fracture of the vault of the skull. She became unconscious very shortly after the accident and died about 20 hours later. Unfortunately a blood sugar was not obtained subsequently to the accident but two different urine specimens showed excess of glucose. Acetone or diacetic acid were not present 12 hours after the accident but were present before death. She was given 120 units of insulin along with glucose by rectum without apparent effect. This case is cited to illustrate the effect trauma may have on a case of diabetes, which previous to the trauma had been in good health. The patient certainly did not die alone from diabetic coma, since she developed a temperature of 106° twelve hours after the accident, suggesting intracranial hemorrhage.

#### TRAUMATIC GLYCOSURIA

It has been pointed out that the occurrence of diabetes following trauma is infrequent. However the occurrence of glycosuria following trauma is frequent. Higgins and Ogden<sup>11</sup> made a study of 212 cases of head injury of varying severity and found glycosuria in 9.43 per cent. Only three showed any lasting glycosuria. Of this group, 2.5 per cent of the cases of concussion showed glycosuria, 20.8 per cent of fractures of the vault, and 23.8 per cent of fractures of the base. Jodry<sup>12</sup> (Lehre Diabet, 1909) examined 145 cases of traumatism of the head and upper vertebrae followed by a transitory glycosuria and found the injury was to the head in 50 per cent of the cases, to the cord in 20 per cent, and in 17 per cent the location was not diagnosed. Foster<sup>13</sup> found glycosuria within the first twenty-four hours in 14 (70 per cent) of 20 cases of fractured skull admitted to New York hospital. He states that the consensus of opinion that a permanent diabetes dating from such injuries as these described is exceedingly rare, although a few are conceded. The occurrence of glycosuria with fractures of the extremities was studied by Konjetzny and Weiland<sup>14</sup>.



Of the 83 cases observed, 40.9 per cent showed a spontaneous glycosuria of a temporary character with the symptoms of polyuria and polydypsia. The glycosuria was accompanied by a hyper-glycemia which in one case rose to 357 mg. per 100 c.c.

The frequency of traumatic glycosuria has been mentioned but only occasionally does it prove a serious problem for treatment. And in such cases the treatment must be directed to the resulting acidosis rather than the glycosuria. Ginsberg<sup>15</sup> reported such a case of a schoolboy, aged 11, who suffered a fracture of the left tibia and fibula and contusions of the chest and abdomen. Thirty-six hours after the accident, the patient appeared in shock, his urine showing sugar, acetone, and diacetic acid, and a blood sugar of 325 mg. per 100 cc. He responded to 35 units of insulin and was entirely recovered 20 hours later. Diabetes was ruled out after the acute symptoms by normal urine and blood findings on a regular mixed diet and by a normal glucose tolerance curve. A second case demanding treatment was reported by the writer previously<sup>16</sup> and is summarized as follows:

*Case No. 2—*

M. S., a male of 35, with an entirely negative history for diabetes, was first seen about 3 p. m., having fallen from a scaffolding, striking his jaw and arm. He appeared in good condition, complaining only of pain where struck. X-ray examination revealed no fracture. About six hours later, the patient became restless, anxious, and appeared as in a shock, suggestive of an internal hemorrhage. Stimulative measures were given without changing his condition. His urine examined at 11 p. m. showed a heavy precipitate of glucose (Benedict), acetone two plus, and diacetic acid. He was immediately given intensive treatment with insulin, receiving 95 units (U20-Lilly) in 24 hours. Clinically he responded rapidly; the urine became entirely negative. He was placed on a maintenance diet of 1830 calories without insulin. Two days later his blood sugar was 120 mg. and carbon dioxide 50 volumes per cent. He left the hospital on the sixth day, feeling well, was on a regular diet, and showed no symptoms or signs of diabetes.

We feel that this case as well as the case reported by Ginsberg represents a form of diabetes, though temporary, in the sense that glucose is improperly burned or that excessive glycogen is discharged from the liver, with hyperglycemia and acetone body formation, probably due to a temporary dis-

turbance in the nervous mechanism controlling carbohydrate metabolism. Its treatment is essentially the same as that of a severe diabetic, except that death seems more imminent and the patient appears in shock. The time element is of prime importance and treatment then must be modified accordingly, as suggested below.

The diagnosis of traumatic glycosuria and acidosis may be confusing. As in the cases cited, it may follow minor trauma and fail to manifest itself for several hours or even a day later. The symptoms are more suggestive of shock than of diabetes or of acidosis. The trauma may be far out of proportion to the acute condition of the patient. The patient appears critically ill, apprehensive, with pallor and sweating, and fails to respond to usual stimulative measures. The appearance is often suggestive of an internal hemorrhage. Consequently it is advisable to make a urinalysis in every case of trauma.

#### TREATMENT

The basic principle on which the treatment is given is to control the glycosuria and acidosis with insulin as early as possible, maintaining the blood sugar at about the renal threshold, controlling the dosage by frequent urinalysis and where necessary blood sugar determinations. We feel there is a marked contrast between the method of treatment of an uncomplicated case of diabetes and a case of traumatic glycosuria showing acidosis. In the latter case, time is of tremendous importance and generally cannot be spent, except with much increased danger to the patient, in waiting several hours or longer for a blood sugar test.

There are certain general steps to be followed out in each case:

1. **Urinalysis**, including specific gravity, amount, qualitative sugar, acetone, and diacetic acid, is the first step in every case, and is performed immediately. The urinalysis should be repeated every three or four hours as long as the patient shows sugar or acetone bodies, which may necessitate catheterization rather than waiting for voluntary voiding. Benedict's solution is probably the most satisfactory for the sugar determination and the results determine the insulin dosage as given below. Qualitative examinations are preferable to quantitative tests, because the additional information gained by the latter is slight. As long as the patient shows glucose or ketosis, it is imperative to examine each urine specimen and treat accordingly rather than wait for 24 hour specimens.

Of the various tests, the sugar test is

probably the most important. Using Benedict's solution, one can roughly estimate the amount of sugar present by the degree of precipitation of the copper oxide. Diacetic acid is of more significance, if present, than acetone and is less likely to be present on a starvation diet. Consideration is given to the reaction and simultaneously with the clearing of the glycosuria, close attention is paid to clearing the ketosis.

2. **Insulin administration** follows the urine analysis, with the aim of reducing the glycosuria and clearing the acidosis as rapidly as possible. This is accomplished by urinalysis every three hours, with immediate insulin administration based on the findings at each examination. This three hour repetition is continued until the glycosuria is reduced to a trace. As long as the patient is in an acute condition, it is probably the less of two evils to reduce the glycosuria to a trace, maintaining it about the renal threshold and so prevent a hypoglycemia. This is against the advice of Allen and Sherill and Joslin, although the latter was not speaking specifically of acute surgical conditions, but agrees with the opinion of Foster, Banting, Campbell, and Fletcher, Jones et al.

The quantity of insulin to be given in each dose is determined by the urine findings (or blood findings) and is largely a matter of experience. When the Benedict's solution is turned a golden yellow-red, 20-25 units are given. The amount is lessened as the solution becomes green.

In the cases of traumatic glycosuria, acidosis and shock may be prominent features. The use of insulin in various forms of non-diabetic acidosis has been advocated by Thalhimer<sup>17</sup>, Fisher and Snell<sup>18</sup>, Fisher and Mensing<sup>19</sup>, and Speese<sup>20</sup>. In cases where the acidosis is prominent with little or no glycosuria, it is essential to administer glucose with the insulin. Glucose is most accurately administered intravenously, using a sterile solution of 10 per cent strength. From 250 to 1000 c.c. of this may be given, depending upon condition, the most essential point being the very slow rate of administration. It is advisable to be given over a period of an hour or even longer. In cases which can cooperate, the glucose may be administered by mouth or by rectum, or a small amount may be given in a 3 per cent hypodermoclysis. The amount of insulin administered depends entirely upon the amount of glucose given. If U-20 insulin is used, one unit of insulin should be given for every 3 grams of glucose given, and if H-20 insulin is used one

unit of insulin to each 2 grams of glucose. The insulin is best given shortly after the glucose has been given. In the cases where the intravenous administration of the glucose is given, it is advisable to give considerable fluids by other routes (mouth, rectum, hypodermoclysis).

3. **Fluid Intake** has been mentioned. It is important that the patient should be supplied freely, by rectum or subcutaneously if necessary.

4. **Diet** in the cases of traumatic glycosuria is usually of secondary importance, since following the clearing of the shock and acidosis, the patient's carbohydrate metabolism returns to normal and special diet is not necessary. If there is any question as to whether the patient may be a diabetic individual, a diet may be advisable.

5. **Blood Chemistry**, while of interest, in cases other than coma or partial urinary retention, as long as glycosuria is present, is not essential. It is often impossible and generally impracticable to obtain blood sugar determinations every three hours during the active glycosuria reduction. The opinion of some workers that insulin cannot be given intelligently without knowing the blood sugar is contrary to the experience of the writer, providing the above conditions are present. As has been mentioned, small amounts of glucose in the urine may even be desirable to aid in the administration of insulin during the acute stage.

However, in coma, or with partial urinary retention, and when glycosuria disappears, blood sugar determinations and also the carbon dioxide combining power should be carried out to administer insulin intelligently. Also in the presence of nephritis or in other cases where the glucose renal threshold is very high, blood sugar determinations are very desirable. In the cases of acidosis, the carbon dioxide combining power are of particular value as an index of the degree of acidosis and consequently of treatment.

#### SUMMARY

1. There is little evidence to place trauma as a cause of diabetes mellitus but it is well recognized fact that a temporary glycosuria frequently follows trauma.

2. In a certain number of traumatic cases, the glycosuria is associated with acidosis and subsequent shock demanding treatment, of which illustrative cases are given.

3. Urinalysis should be performed every three hours as long as the patient shows glycosuria or acidosis.



4. Insulin should be administered on the urinary findings. In the cases of acidosis in the absence of glycosuria, glucose and insulin should be given together.

5. Fluid intake should be forced, given rectally or subcutaneously if necessary.

6. Blood sugar determinations are very desirable in cases of coma, partial urinary retention, and after glycosuria has disappeared. Carbon dioxide combining power is of particular importance in cases of acidosis with little or no glycosuria. In many cases, blood chemistry is not essential while the patient shows glycosuria and very valuable time is lost with much increased danger to the life of the patient, in waiting several hours for a blood sugar determination.

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### Physio-Therapy in the Treatment of Prostatic Disturbances

W. C. CHANEY, M. D., Independence, Kansas

(Read before the Montgomery County Medical Society at Independence, March 19.)

Some one has said, "In the minds of many thinking physicians prostatic disturbances and their sequelae are the most serious lesions for which men present themselves

for treatment." Whether this be true or not, the fact remains that, in the past, the treatment of these conditions has proven far from satisfactory in many cases, to both patient and physician.

The prostate is a musculo-glandular body located immediately in front of the neck of the bladder. It rests on the anterior wall of the rectum, to which it is connected by dense areolar tissue. It is encased in a thin, firm, fibrous capsule; is illy divided into three lobes; and is pierced by the prostatic portion of the urethra and the ejaculatory ducts.

The glandular element of the prostate is made up of numerous follicular pouches which open into elongated canals. These canals join to form from fifteen to thirty small ejaculatory ducts which lead out onto the floor of the prostatic urethra. The glandular function of the prostate is to secrete a viscid, opalescent, alkaline fluid for carrying and maintaining the semen.

The deep seated position of this gland renders it little liable to injury from without, but it is frequently injured by the passage of sounds and catheters. Due to its fixed position, and its firm limiting capsule, prostatic disturbances are usually accompanied by pain in the perineal region, frequent urination, and later by retention of urine.

The most common prostatic disturbances are acute and chronic prostatitis, and hypertrophy of the prostate in elderly men. While tuberculosis, benign tumors and malignancies occur less frequently. Of the sequelae, the retention of the urine which, if persistent, later causes cystitis, pyelitis and often even destruction of the kidneys is the most frequent.

The most pronounced symptoms in prostatic disturbances are: frequent urination; pain in the perineum, increased by urination and defecation; and later retention of urine.

Many remedies and various methods of treatment have been recommended for the treatment of prostatic disturbances. Most of them have proven of but little value. Certain general rules in the management of these different forms of prostatic disturbances are common to all: The patient must be kept quiet, warm clothing worn, the external genitals well supported, chilling drafts avoided, a nourishing diet provided, plenty of pure water given at all times, alkaline diuretics to render the urine bland, saline laxatives to produce a soft stool, and heat applied to the prostate.

General medication has proven of but little value. Urethral medication by the in-

jection method should never be used. Catheterization should be avoided as much as possible. Surgery for the relief of retention of urine and for the removal of the hypertrophied prostate is not without a rather heavy mortality rate.

Heat applied to the prostate has proven by far the best remedy at our disposal in the treatment of these forms of prostatic disturbances. Three methods have been employed in heating living tissues, the conductive, convective, and converseive.

In the conductive method heat is absorbed by the tissues from local application of heat; as from the hot pack, hot water bottle, the electric pad, etc. Heat applied by this method penetrates but a little below the surface.

In the convective method the heat is generated in the tissues by the penetration of a strong ray of light, as from a strong electric light. This method also produces a certain amount of conductive heat, as much heat is thrown off from the electric light bulb. This method heats living tissues five times as deep as does the conductive method alone.

In the converseive method, the heat is generated in the tissues by the passage of a high voltage, high frequency current through the tissues. When any resistance is placed in the path of an electric current heat is produced. If then living tissues are used as the resistance to the passage of the current, heat is produced in the tissues themselves. It is necessary, however, when passing the electric current through living tissues so to alter the commercial electric current that nerve sensation may be overcome. The high amperage and low frequency of the commercial alternating current causes severe muscular contractures. To overcome this a high voltage, low amperage and high frequency current is used. The frequency of alternations being so high that they will not produce nerve impulses. Organs or parts of the body heated by this method may be maintained at a temperature of 112° to 116° F. for a considerable length of time without damage to the tissues. And the heating processes may be repeated again and again. An aching sensation in the parts being an indication that the tissues are becoming too hot.

Inflammatory processes in the living tissues produce certain definite symptoms, namely: redness, swelling, heat, and pain; and such inflamed areas are always alkaline in reaction.

DuBois Raymond has demonstrated that heat coagulates muscular plasma and causes

an acid reaction of the muscular tissues. Also that tissues having an acid reaction are free from pain. It has also been demonstrated that the anode of the continuous current attracts oxygen from the body fluids; that oxygen is an acid maker, and that tissues in close proximity to the anode of the continuous current are thus rendered acid in reaction, contracted and freed from pain.

Sampson and Neiswanger have each worked out a method of treating prostatic disturbances in which heat to the prostate is the prime factor of the treatment.

Sampson recommends the generation of heat in the prostate by the passage of a high frequency current through the gland. The heating process being repeated as often as may be deemed necessary. The length of the application being from twenty to forty-four minutes and such treatment repeated every six to twenty-four hours as indicated in the case in hand. As synergists to this heating process Sampson recommends the use of the ultra violet ray light, locally to the prostatic region of the rectal mucous membrane, and generally over the entire surface of the body; also massage of the prostate by the application of the static condenser discharge, the Morse sine wave or the slow sinusoidal current. While in cases of hypertrophy and chronic prostatitis, where there is much enlargement and hardness, he recommends ionizing doses of x-ray to the prostate for its softening effect.

If heat in prostatic disturbances is our most efficient remedy, it may be readily seen that in this method of heating the prostate we have a most excellent means at our disposal. Tissues heated in this way retain the heat for several hours; and as the blood is heated in passing through during the time of treatment there is also a slight rise in the general body temperature. All secretory and excretory glands of the body are stimulated and metabolism improved by this method of heating the body tissues.

Neiswanger accomplishes results in a different way. He recognizes the need of heat to the prostate; and at the same time wishing to take advantage of the anodal effect of the continuous current in contracting and rendering the tissues in close proximity to the anode acid in reaction, he has devised a special electrode whereby heat from a hot salt solution may be applied to the prostatic gland through the rectal mucous membrane; while at the same time the anodal effect of the continuous current is obtained on the prostate by making this special rectal elec-



trode the positive of the current. The salt solution used in this treatment must be at 125° F.; the treatment is given for ten minutes, using from thirty to forty milliamperes of current. Such treatments are repeated two to four times a week.

During the past three years I have used these two methods, combining and alternating them as the case might require, with most gratifying results. Under this line of treatment pain and swelling have been quickly relieved, the normal passage of urine re-established in cases of retention after a very few treatments, and in cases of infection the infection has cleared up as demonstrated by microscopic reports. I have used these methods of treatment in a number of acute and chronic cases of prostatitis and in hypertrophied prostates, and the results have been uniformly good in every case. To illustrate the results to be obtained by these methods of treatment I wish to report three cases, which will cover the three forms of prostatic disturbances under consideration.

Case No. 1: H. G., 45, single, clerk for an electrical supply company. Contracted gonorrhea about February 15, 1924. Treated self for nine weeks by urethral injections, at which time an acute gonorrheal prostatitis developed with retention of urine. He was then under the care of a regular physician for three weeks, during which time catheterization was necessary for emptying the bladder. He presented himself at my office May 15, 1924, with the following condition present. Urethral discharge suppressed since the beginning of the acute prostatitis. Prostate swollen and tender. Patient suffering severe pain in the perineal region. Complete retention of urine, relieved by catheterization for a period of three weeks. Slight chills, temperature 102° F.

Treatment: Diathermy applied to the prostate by means of a non-vacuum glass electrode in the rectum as the active electrode and with a large block tin electrode applied over the lower part of the abdomen as the indifferent electrode. Thirteen hundred milliamperes of current were allowed to pass between these electrodes for thirty minutes. Patient stated pain was greatly relieved at the end of the treatment.

May 16, 1924: Positive galvanism given as per Neiswanger method. Thirty milliamperes of current allowed to pass for ten minutes.

May 17, 1924: Patient now has a purulent, profuse discharge from the urinary meatus. Slight dribbling of urine. Pain

greatly relieved. Chills have ceased and temperature is now 100° F. Diathermy used, one electrode being applied to the perineum and the other over the lower part of the abdomen. Fifteen hundred milliamperes of current allowed to flow for thirty minutes. Ultra violet ray applied to the prostatic portion of the rectal mucous membrane.

May 19, 1924: Patient now free from chills and fever. Pain entirely relieved. Catheter has not been used since the third treatment, and the patient is able to empty the bladder with but little effort.

A combination of the methods of treatment as described above were continued; and for the gonorrheal infection the diathermy was employed using a non-vacuum glass urethral electrode in the urethra. The course of treatments extended over a period of three months, at which time the patient was discharged free from all prostatic symptoms. The gonorrheal infection having disappeared and no trace of gonococci could be found under the microscope. Patient has had no return of symptoms to the present time.

Case No. 2: J. W. M., age 67, married and the father of several grown children, merchant. A man of very high moral ideas and exemplary habits. Chronic prostatitis of several months' duration. Gradual in its onset and increasing in the severity of symptoms. Patient complained of pain in the perineum. Frequent urination, rising several times nightly to draw the urine. Lassitude and loss of strength. The prostate was tender to the touch and slightly swollen.

Daily treatments were given, using a combination of the methods as described above. All symptoms disappeared following the first treatment, and the patient was discharged on the tenth day, the prostate having returned to normal size and consistency and there being no symptoms of prostatitis present. This patient presented himself for examination and treatment October 10, 1924, and was discharged October 20, 1924. There has been no further prostatic disturbance in this case up to the present time.

Case No. 3: W. H. M., age 72, retired minister. Hypertrophy of the prostate of five years duration. Had repeated attacks during the five years when the pain would become excruciating, requiring opiates for relief, and with retention of urine requiring catheterization. Frequently urination always present; patient having to rise from ten to twenty times nightly to

urinate. Never able to completely empty the bladder; but with dribbling of urine always present, except at times of attacks of complete retention. Patient weak, vitality low, and unable to keep warm. Discomfort in the region of the prostate at all times, with excruciating pains when having an attack of complete retention. Prostate very large and very hard.

First treatment was given in February, 1923, and fifteen treatments were given extending over a period of six weeks. The methods of treatment as outlined above were used, varying them as in my judgment seemed best. All symptoms were readily relieved and the patient was able to empty the bladder after two weeks of treatment. At the end of six weeks of treatment the patient was very comfortable. His strength and vitality were better and he was able to keep warm, even at nights. The prostate was reduced in size and was not so hard. The dribbling of urine had ceased and he could empty the bladder. The discomfort in the perineal region has disappeared. Urination is not so frequent, the patient having to get up but once or twice a night to empty the bladder. The treatments were not continued over a long enough period to bring about a complete reduction in the prostate. However this patient did remain in good health and comfort, and with but little prostatic disturbance until October, 1925. At that time he took a fifty mile automobile ride, gave an address at a Sunday school, ate a hearty dinner, visited during the Sunday afternoon with friends, and in the evening preached a sermon. He retired very tired and slept a somewhat restless night. On Monday he visited with his old parishioners until late in the afternoon when he rode fifteen miles to the home of his son. Soon after reaching the son's home he was attacked with an excruciating pain in the prostatic region which required morphine hypodermically to relieve. Catheterization being employed to withdraw the retained urine. He was very weak following this attack and was unable to return home for three or four days. After about ten days he presented himself at my office for treatment. Treatments have been given at irregular intervals since. The patient has returned to his usual comfortable condition. He is not quite so strong as before the attack. He still rises once or twice a night to empty the bladder. The prostate is somewhat enlarged but is much softer than when first seen. I believe that if treatment is continued over a protracted period of time that the prostate will

be reduced to the place where it will give no disturbance at all. This patient is now seventy-five years of age. At the present time there is but little prostatic disturbance. He is comparatively comfortable and is greatly enjoying life.

I have presented these case reports to illustrate results obtained by these methods of heat treatment. Other cases of prostatic disturbances have been treated with equally good results. It is my belief that no other line of treatment gives such uniformly good results in these cases of prostatic disturbances. Treatments are easily given. Hospitalization is not necessary. Symptoms of pain, frequent urination and retention of urine are quickly relieved. The mortality rate is nil, and the results of the treatment are permanent in the great majority of cases.

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## UNIVERSITY OF KANSAS CLINICS

### Clinic of Doctor L. F. Barney

The last case we have to present this morning is a woman whose chief complaints upon entering the hospital are a sense of pressure and pain behind the sternum, hoarseness and difficulty of phonation and dyspnoea.

History: Mrs. B. H., age 55, married, housewife. Briefly her history is that she has always had good health until about one year ago when she developed a sense of tightness behind the manubrium. About the same time talking became difficult and her voice became hoarse or muffled. Soon she began to have smothering spells and would have to sit up at night to get her breath, especially if she lay in certain positions. Walking fast became difficult. About seven months ago she noticed a small kernel above the right clavicle. Since then it has increased slightly in size. A short time later she noticed a smaller hard mass under the left clavicle. Both of these were painless. About this time she went to a physician who told her she had a goiter and began giving her thyroid and iodides. From this time on she began losing weight, has become sluggish and drowsy and weaker and the earlier symptoms have increased. She has had no fever or chills; her appetite is fair; no difficulty in swallowing; no indigestion and her bowels are regular. At times she has a very slight cough.

Physical Examination: An obese white woman, whose normal weight two years ago was 240 pounds, now is 198. The first thing that strikes us is the huskiness of



her voice and the dusky color of her head, face and neck down to the chest and the bluish color of her hands and forearms when they are suspended. The rest of her body has a normal clear color and the veins of her chest and abdomen are not distended. When her arms are elevated above her head the discoloration disappears and when she lies flat in bed her face becomes deeply cyanotic and she soon begins to beg to be raised up. Her heart shows the apex beat in the mid-axillary line, the sounds are normal, no murmurs, and the rate is regular and not rapid. The liver is not palpable or tender. The pupils are round, equal and react to light. The neck reveals the nodules described by the patient which are hard, round and lie deeply in the fatty tissues. In the region of the right lobe of the thyroid is a small smooth round mass which feels more like a lymph gland than a goiter. The throat is negative, and the chest reveals no rales on auscultation. Percussion is difficult and unsatisfactory on account of the obesity. The legs are very slightly edematous. Urinalysis is negative. Blood examination: Hg. 90%; R. B. C., 5,112,000; W. B. C., 11,300; Polys, 49; L. L. 19; S. L., 33; Trans. 2; Eosin, 2; Wassermann, negative. X-ray report: "Apices aerate rather poorly. There is considerable fluid at the right base. The mediastinum is widened with apparently hypertrophy of the glandular areas."

Two days later the right chest was aspirated and five pints of clear straw colored fluid having a specific gravity of 1017 removed. At the same time a section of the tumor on the left side of the neck was removed under local anesthesia for microscopic examination which was reported by Doctor Wahl as adeno-carcinoma.

This case is a typical case of carcinoma of the mediastinum.

In making a superficial review of the literature on mediastinal tumors one is impressed by the brevity shown in the general text books. Keen's Surgery devotes less than one page to New Growths of the Mediastinum. Ewing's Neoplastic Diseases speaks of dermoid cysts, lipomas and Hodgkin's disease, while Hertzler's Treatise on Tumors gives a very brief but good resume of the subject. In the ten volumes, 1916 to 1925, of the Collected Papers of the Mayo Clinic very little is written on the subject. This is due probably because tumors of the mediastinum are rarely amenable to treatment and are comparatively rare.

Classification: They may be classified as follows:

# 1. Carcinoma:

- (a) Primary: Start in the alveolar epithelium or the bronchi.
- (b) Secondary: More rare than primary and are usually extensions from the lungs, below the diaphragm or about the head and neck.

# 2. Sarcoma:

- (a) Primary: May be of any of the cell types but the small cell predominates and the point of origin most commonly is the lymphatic glands but may be the connective tissue.
- (b) Secondary: Less common than the primary and are by direct extension of the sarcomas elsewhere.

# 3. Lymphomas:

- (a) Tuberculous Glands.
- (b) Hodgkin's Disease.
- (c) Syphilis.

# 4. Rare Types:

- (a) Dermoids.
- (b) Chondromas.
- (c) Lipomas.
- (d) Fibrous substernal thyroids.
- (e) Echinococcus cysts.

Frequency: Hare in his prize essay on "Mediastinal Tumors" (Keen's Surgery), says that malignant tumors occur four times as frequently as the benign and that carcinomas are much more frequent than sarcomas, although some of the writers would lead us to believe that dermoid cysts of the mediastinum are relatively common. Hedblom suggests that chondromas are probably the most common.

Symptoms: Depend upon the size, situation and rate of growth. As malignant tumors are rapidly fatal they are more readily diagnosed.

Chief symptoms are those of: (a) Compression; (b) Disturbance of voice.

- (a) If the tumor presses upon the bronchi there will likely be rales, cough and dyspnoea. If there is pressure upon the veins, there will be cyanosis of the face or arms and probably distention of the veins of the neck and chest. If the vagus nerve is compressed there may be irregularity of heart action with either tachycardia or bradycardia.
- (b) Disturbance of voice is due to pressure on the recurrent laryngeal nerve and may be an early symptom.

Physical Findings: There may be—

- (a) Displacement of the heart. This depends upon the size and location of the tumor.

- (b) Cyanosis of the face or arms.
- (c) Respiratory murmurs or absence of localized breath sounds, due to compression of bronchi.
- (d) Increased substernal dullness.
- (e) Edema of the extremities: especially the upper.
- (f) Distention of veins of neck, chest or even the abdomen.

Diagnosis: As to kind of tumor.

- (a) Only positive diagnosis is biopsy.
- (b) Lymphomas are usually present in other localities.
- (c) Dermoids frequently rupture into bronchi and the patient coughs up hair which when found makes the diagnosis positive.

Treatment:

- (a) Small benign tumors as a rule require no treatment as their growth is so slow that nature has time to adjust the surrounding organs to their presence.
- (b) Dermoids are frequently removed successfully by surgery.
- (c) Tuberculous glands frequently are benefitted by tuberculin. I had a case in which the results were very satisfactory.
- (d) Hodgkin's Disease is benefitted temporarily by radiotherapy but is ultimately fatal.
- (e) Syphilitic glands yield to anti-syphilitic treatment.
- (f) Carcinoma and sarcoma. There is no treatment that gives much relief and they are usually rapidly fatal.

### Clinic of Dr. Frederick B. Campbell

#### POSTNATAL EXAMINATIONS

Miss N. has no complaint and states that she feels well. She is brought to the clinic by the matron of a charitable institution and is here for the routine postnatal examination. She was delivered two months ago.

Upon questioning, however, she admits that she has a vaginal discharge, which is gradually getting worse, and sacral backache, after standing for sometime, but she believes this to be natural following childbirth. Most of us believe that a moderately increased vaginal secretion is not pathological, considering the trauma, laceration and relaxation of the pelvic structures. But the patient states that her discharge is increasing. By the natural course of events we would expect it to decrease as pelvic

tissues regain their tone, and circulatory equilibrium is re-established.

#### PERINEUM

The vaginal canal barely admits two fingers, due to a tender scar. The condition of the perineal muscles is determined by asking the patient to tighten the muscles or try to pinch the fingers. This patient has very little muscular power, which is in keeping with the fact that the perineal body gives little support. She had a second degree laceration. This means that the fascia of the perineum, which is the real supporting structure, was torn at or near the midline. Its muscular attachments retracted it widely, and it was not closed when the needle and thread were applied. Painsstaking apposition of the skin and mucous membrane does not constitute a satisfactory repair, except in first degree lacerations. The edema and irregularity of the laceration is sometimes confusing. With the hand on a distended perineum, one can often feel, or actually hear, the fascia give way. The proper protection and care of the perineum during and after delivery, requires the highest type of surgical judgment.

Episiotomy is indicated in a rapid second stage in a primipara, in the rigid inelastic perineum and where forceps delivery is necessary. The incidence of its application may vary greatly with different men, but where a laceration is almost a certainty, the episiotomy is the wound of choice. Its smooth edges are easily approximated. There is no sloughing of ragged devitalized tissues. The wound is to one side through the least important structures, there is less contamination, good drainage and no torn anal sphincter, all of which means better healing and a stronger perineum.

#### UTERUS

The uterus is normal in size and position. It is at this time that a retroverted uterus, which was previously anterior, should be discovered. It can usually be replaced easily. Keeping it there with a properly fitting pessary, until the ligaments regain their tone, will cure many cases. Tampons and the knee chest position are of great value, if a pessary is not at hand and may be used with it, when there is subinvolution or inflammation.

#### CERVIX

The cervix is in normal position and has a bilateral laceration. Moving the cervix, especially pulling it forward, causes slight pain. Since backache may be caused by infection from the cervix extending to the



ymphatics of the utero-sacral ligaments, inspection of the cervix is of especial interest in this case.

Exposure with the speculum discloses a thick muco-purulent discharge pouring from the cervix, a slight laceration, and about the external os, is a slightly granular, bright red area the size of a dime. This is a typical erosion, the old time "ulcer on the mouth of the womb." The swelling of the mucosa within the canal naturally causes some eversion.

This is what happens. The cervix is torn at delivery, and imperfect healing leaves an open external os. The endo-cervix, which is normally alkaline, is exposed to an irritating infected acid vaginal secretion. The irritation causes hypertrophy. The threshold of resistance is lowered and low grade infection follows, if it has not been present since delivery; then debility, due to pelvic lymphangitis.

Many of the simple erosions, such as are found six to eight weeks postpartum, are cured by treatment with silver nitrate. The more advanced lesions, having a marked granular appearance, or evidence of cysts, should be treated by linear cauterization, such as is done in this clinic nearly every day. In this case, three radiating cautery lines on each lip of the cervix, with possibly another treatment in a month, should result in a practically normal cervix in two or three months time. Untreated, this condition may result in anything from the very simple condition which heals spontaneously, to the chronic cystic cervicitis, pelvic lymphangitis, with semi-invalidism and sterility, or as is stressed in recent literature, carcinoma.

A little attention to the postnatal cervix means less surgery and fewer debilitated women. Patients should be educated to the importance of routine postnatal examinations, and the doctors should insist upon it.

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### How to Take Care of Hypodermic Syringes and Needles

Recently a pamphlet was published on "Standardizing on Sizes and Makes of Hypodermic Syringes and Needles," which contains a large amount of information valuable to all practicing physicians.

It gives many suggestions as to the gauge and length of needles and the size of the syringes which are generally used for the various operations, which conclusions were reached after consultation with some of the foremost surgeons in the country.

There are also many notes regarding the care and sterilization of needles and syr-

inges, and the pamphlet also outlines the comparative merits and cost of steel, nickel-oid, gold and platinum-iridium needles.

Any physician interested can secure a complimentary copy by writing to Becton, Dickinson & Co., Rutherford, N. J.

—————R—————

### Where Is the Blind Baby?

Laws that care for the blind in the State of Kansas now include the child from the day of blindness, even though that be at birth. This makes Kansas one of the leading states in the care of its young blind. The Law is Senate Bill No. 59 of the laws of February, 1923. It provides that the State School for the Blind can contract with any Institution for the Blind that is fully equipped, for the care temporarily of all children too young for the State School. This law is compulsory, as provided in Section 2 of the Laws of 1923, to enforce provisions of this Act.

There are no Kansas blind babies in the International Sunshine Arthur Home and Kindergarten at Summit, N. J., an Institution provided for the baby blind. Different states are taking advantage of this exceptional home and school, exceptional because it takes in blind babies from every state and keeps them until they are ready to enter the State School for the Blind. If the mother will realize that the baby needs immediate care, she will take advantage of these appointments and report the baby that it may have the hospital care especially, before the little body becomes twisted and deformed.

Where are the children who should have these scholarships? Report such blind children to Mrs. John Alden, originator of the Blind Baby Law and founder of the Blind Babies Home and Kindergarten, Summit, N. J., or to the superintendent of the State School for the Blind, Kansas City, Kansas.

The state pays \$1.50 a day for each child so appointed, and it graduates when old enough, to the State Schools or State classes for the Blind, where it gets the higher education. Delay in sending the baby early often means its deterioration into a helpless and backward blind child.

—————R—————

"Psychic Unfoldment" is the name given to a new pseudo medical school in Los Angeles. Articles of incorporation have been filed with the Secretary of State at Sacramento, California, for a charter to do business. The name suggests that there is such a thing as mind and that it needs to be unwound.

# THE JOURNAL

of The

## Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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### THE ANNUAL MEETING

The annual meeting of the Kansas Medical Society will be held in Kansas City, Kansas on the 4th, 5th, and 6th of May. Both the place of meeting and the program that has been prepared promise a large attendance and more than usual interest.

During the greater part of the history of the society there has been a conflict of interests or rather a contest for time necessary for the deliberate consideration of the two very distinct purposes for which the annual meetings are held, the scientific program and the business of the society. There has seldom been a session at which the business of the society was not too hurriedly or too carelessly conducted, or the scientific program did not suffer because of encroachment upon the time allotted to it, by the business session. Numerous plans for correcting this difficulty have been tried out. Meetings of the House of Delegates on the day preceding the general session failed because of lack of attendance and because there was always some business matters that had been neglected or that arose during the general session that required consideration. Meetings on the day following the last day of the general session seldom found a quorum of delegates on hand or slightly more than a quorum. The plan that

has been followed for some years now is perhaps as satisfactory as any other—a meeting of the House of Delegates on the evening of the first day for the general business affairs of the society, and a second meeting on the last day for the election of officers.

The evening session does not encroach upon the time set aside for the scientific program and should usually afford ample time for the consideration of reports and all other matters of general business, but there is very likely to be some important matters that cannot be promptly disposed of and must be deferred for action. It is therefore seldom that the House of Delegates is able to complete its business in the time allotted to it on the last day of the session.

There will continue to be more or less conflict between the business affairs of the society and the scientific program so long as the attempt is made to divide the time between them. Obviously, the way to avoid it is to have two separate annual sessions, a business session and a scientific session. But there are something like sixty objections to that plan, according to the number of delegates. It is presumed that those who attend the annual meeting are reimbursed for their expenses in whatever they may gain from the scientific program and the entertainment provided; but those who attend a meeting for the transaction of business only, can see no just reason for paying their own expenses and under the present conditions the society is unable to pay them. That is the first objection and the other fifty-nine are the same.

Until it can be demonstrated that the society is actually worth more in dollars and cents to its members than the amount now collected in dues, it is hardly likely that the House of Delegates can be tempted to expand its activities, or assume any responsibilities other than those immediately concerned with the maintenance of the organization.

For the benefit of any who are not familiar with the scope of the purposes of this organization the following extracts from Chapter IV of the by-laws, explaining



the duties of the House of Delegates, are here reproduced:

"Sec. 4. It shall through its officers, Council and otherwise, give diligent attention to and foster the scientific work and spirit of the Society and shall constantly study and strive to make each annual session a stepping stone to future ones of higher interest.

"Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to difuse popular information in relation thereto.

"Sec. 6. It shall make careful inquiry into the condition of the profession of each county of the state, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every physician in every county of the state who can be made reputable has been brought under Medical Society influence.

"Sec. 7. It shall encourage post graduate and research work, as well as home study, and shall endeavor to have the results utilized and intelligently discussed in the county societies."

These three sections of the by-laws, if properly interpreted, provide a fairly wide field for the Society's endeavors. So far very little attention has been given to the material interests of the profession. There has been little time to discuss some of the problems of most vital interest to the practitioner. Nothing has been attempted along the lines suggested by the American Medical Association to bring to the people a better understanding of health matters. No effort has been made to popularize the idea of periodic examinations. But there is never sufficient time to consider these things. It requires time to plan campaigns

of this sort and it requires energy and time and money to carry them out.

Other state societies have accomplished something along these lines that seem to appeal to their membership, at any rate the members seem willing to pay the expenses. The following extracts are made from a statement of the secretary of the Illinois State Medical Society appearing in the March number of the Illinois Medical Journal.

"Legislative Service. Through a very efficient legislative committee the interests of the medical profession are well cared for. There has been no occasion for any 'lobbying' during the past few years on account of the work the committee has done. Friendly to the legislator at all times, and no antagonism. The results speak for themselves. There have been no measures at all offensive to the medical profession passed at the last session of the legislature. In 1923, there was passed an excellent Medical Practice Act, which has been declared constitutional by our Supreme Court, and which we have reason to be proud of. The medical profession of Illinois should be proud of the work done by the legislative committee.

"Lay Education Work. It has now been two years since this work was started. Much has been done in this time, and the activities and services will be briefly outlined.

a. Speakers Bureau.

"Hundreds of talks on medical subjects, and matters pertaining to health have been given before lay audiences. These have all been given through a request from the organization before which the talks were given. To show the increasing popularity of this work, it might be well to state that between June 1st, 1925 and June 1st, 1926, 1096 talks have been scheduled, and this number will be increased before the period expires.

b. Newspapers.

"Hundreds of newspapers throughout the state have received news articles on health subjects from our office in Chicago, and these articles have been carefully edited and censored, so that no personal attacks have been made, nor any prejudices shown.

c. Radio.

"Three or four of the largest radio stations have co-operated with us in the broadcasting of 'health talks.' These have proved to be very successful, and the use of the

radio will be increased during the present year.

d. Periodic Health Examinations.

This has been mentioned in most of the talks made before lay audiences showing the necessity for regular "physical inventories" and contrasting their value with the financial inventories, the value of which, no one contradicts. In addition to these talks, physical examinations have been given in connection with Health Pageants, which have been conducted in several localities, and which have been of great value in showing the necessity of the physical inventory.

e. Co-ordination with lay-organizations.

"Throughout the state, arrangements have been made whereby all organizations undertaking any phase of health work, or activity, shall do it under the supervision of local Medical Societies. Through such an arrangement, there is no overlapping of service, and the supervision of all health work is where it should be, under the direction of the Medical men.

f. Co-ordination with other health agencies.

"An unusual degree of co-operation has been arranged between the Illinois State Medical Society, and such organizations as the Illinois Tuberculosis Association, The State Health Department, and other organizations.

g. Post Graduate Service.

"This is a more recent activity and it has been successfully inaugurated in several Counties. Within a short time, we hope to give more information on this service, which we believe will be one of the best features yet presented to Medical Societies."

The members of the Illinois State Medical Society pay approximately ten dollars a year dues and during the past five years this society is credited with having the largest membership in proportion to the number of practicing physicians in the state, of all the large state medical societies.

#### UNIFORM CONSTITUTION AND BY-LAWS FOR STATE ASSOCIATIONS

At the last annual meeting of the American Medical Association, the House of Delegates referred to the constituent state associations for consideration, a draft of a constitution and by-laws that had been prepared by a special committee of the House.

Since the Annual Meeting of the Kansas

Medical Society had already been held there has been no opportunity to present this draft to its House of Delegates. However, it will be necessary to give it some consideration at the Annual Meeting in May. For that reason and in order that the delegates may have an opportunity to study its provisions and compare it with our present constitution and by-laws it is reproduced below.

One may safely predict that after a careful comparison a majority of the delegates will find our constitution and by-laws, in practically every particular, far superior to this draft that is submitted. As far as the essential provisions are concerned there is very little difference. In one or two instances, things are provided for in this new draft that have been tried out in our society and abandoned. At one time, for instance, our constitution and by-laws provided for a nominating committee, but that was before a House of Delegates elected the officers. It is very doubtful if our delegates would willingly surrender this privilege to a nominating committee. The nominating committee plan is potentially the most objectionable form of ring control.

Another provision of the new draft is for a one year term of office for the Secretary. In our society the secretary was given a three year term in order that he might familiarize himself with the membership and the work before his successor was elected. There is little inducement for one to expend much time and energy in a job which can only be counted upon for one year.

There is one provision in this new draft which does merit consideration. Instead of vice-president there is a president-elect who serves as such for a year, then becomes president. The duties of the president-elect are also prescribed. The trouble with this is the matter of succession. In case of the death of the president-elect there is no provision for a successor until another one is elected.

If article X of our constitution were amended to read, "The term of office of the President shall be for one year beginning



on the first day of January following his election" all that could be expected from the provision for a president-elect would be accomplished. He who is elected for the presidency at the annual meeting would be the president-elect for eight months and then become president. He would have a year to get his plans formulated to present at the annual session and he would then have eight months in which to carry out such plans as had been approved by the House of Delegates.

Before any opinions are formed, however, it is to be hoped that the delegates will read and carefully consider the draft of the proposed constitution and by-laws which has been submitted by the House of Delegates of the American Medical Association.

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Draft of the Constitution and By-Laws for Constituent State and Territorial Medical Associations, as prepared by a special committee of the House of Delegates of the American Medical Association and referred to constituent state and territorial associations for consideration.

## CONSTITUTION

### Article I.—Name of the Association.

The name and title of this organization shall be the \_\_\_\_\_ State Medical Association.

### Article II.—Purpose.

The purposes of this association are to promote the science and art of medicine, the protection of public health, and the betterment of the medical profession; and to unite with similar organizations in others States and Territories of the United States to form the American Medical Association.

### Article III.—Component Societies.

Component Societies shall consist of those county medical societies which hold charters from this Association.

Section 2. The terms, county medical society and component county medical society, shall be deemed to include all county medical societies and academies of medicine now in affiliation with this Association, or which may hereafter be organized and chartered by the House of Delegates of this Association.

### Article IV.—Composition of the Association.

This Association shall consist of members who shall be the members of the component county medical societies who have been certified to the headquarters of this Association, and whose dues and assessments for the current year have been received by the Secretary.

### Article V.—House of Delegates.

The House of Delegates shall be the legislative body of the Association and shall consist (1) of delegates elected by the component county societies, and (2) the officers of the Association enumerated in Section \_\_\_\_\_ of Article \_\_\_\_\_ of this constitution.

erated in Section \_\_\_\_\_ of Article \_\_\_\_\_ of this constitution.

### Article VI.—Council.

The Council shall be the Board of Trustees of this Association. The Council shall have full authority and power of the House of Delegates between annual sessions, unless the House of Delegates shall be called into session as provided in the Constitution and By-Laws. It shall consist of Councilors, the President, the President-Elect, the Secretary and the Treasurer of the Association. \_\_\_\_\_ of its members shall constitute a quorum.

### Article VII.—Sections and District Societies.

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

### Article VIII.—Sessions and Meetings.

Section 1. The Association shall hold an annual session during which there shall be at least two general meetings, open to all registered members, delegates and guests.

Section 2. The time and place for holding each annual session shall be fixed by the House of Delegates, or such authority may be delegated to the Council.

Section 3. Special meetings of either the Association or the House of Delegates may be called by a two-thirds vote of the Council or upon petition by twenty delegates.

### Article IX.—Officers.

Section 1. The officers of this Association shall be President, a President-Elect, a Secretary, a Treasurer, and \_\_\_\_\_ Councilors.

Section 2. The officers, except the Councilors, shall be elected annually. The terms of the Councilors shall be for two years; one-half the members of the Council shall be elected each year. The Secretary and the Treasurer shall be elected by the Council. All these officers shall serve until their successors are elected and installed.

### Article X.—Funds and Expenses.

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates. Funds may also be raised by voluntary contributions, from the Association's publications and in any other manner approved by the House of Delegates. The Council shall submit an annual budget to the House of Delegates. All resolutions providing for appropriations shall be referred to the Council and all appropriations approved by the Council shall be included in the annual budget.

### Article XI.—Referendum.

At any general meeting of the Association it may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates. The House of Delegates may, by a vote of its members, submit any question to the membership of the Association for its vote. A majority vote of all the members of the Association shall determine the question.

### Article XII.—Seal.

The Association shall have a common seal. The power to change or renew the seal shall rest with the House of Delegates.

### Article XIII.—Amendments.

The House of Delegates may amend any arti-

cle of this Constitution by a two-thirds vote of the Delegates present at any Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been published twice during the year in the bulletin or journal of this Association, or sent officially to each component society at least two months before the meeting at which final action is to be taken.

### BY-LAWS.

#### Chapter I.—Membership.

Section 1. The name of a physician on the official roster of this Association, after it has been properly reported by the secretary of his county society, shall be prima facie evidence of membership and of his right to register at the Annual Session.

Section 2. No person who is under sentence of suspension or expulsion from any component society of this Association, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Association.

Section 3. Each member in attendance at the Annual Session shall register, when his right to membership has been verified by reference to the records of this Association. No member shall take part in any of the proceedings of the Annual Session until he has complied with the provisions of this section of the By-Laws.

#### Chapter II.—General Meetings.

Section 1. The General Meetings shall be open to all registered members and guests. Before them, at such time as may have been arranged, shall be delivered the annual address of the President and of the President-Elect and the annual orations.

Section 2. No address or paper, except those of the President, the President-Elect and the annual orations, shall occupy more than twenty minutes in its delivery. No member, except by unanimous consent, shall speak more than once in the discussion of any paper nor longer than five minutes at any one time.

Section 3. All papers read before this Association shall be its property. Each paper, when it has been read, shall be deposited with the Secretary. Authors of papers read before this Association shall not cause them to be published elsewhere until after they have been published in its Journal.

#### Chapter III.—House of Delegates.

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session.

Section 2. Each component county society shall be entitled to send each year one delegate or one corresponding alternate to the House of Delegates for each—full-paid members or fraction thereof in this Association; provided, however, that each county society shall be entitled to at least one delegate or one corresponding alternate.

Section 3. -----delegates shall constitute a quorum of the House of Delegates. All meetings of the House of Delegates shall be open to members of the Association.

Section 4. From among members of the House of Delegates the President (or Speaker of the House of Delegates), for the purpose of expediting proceedings, shall appoint Reference Committees to which reports and resolutions shall be referred as follows:

He shall also appoint a Committee on Creden-

tials and such other committees as may be considered by him to be necessary.

Section 5. The House of Delegates shall elect delegates to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body.

Section 6. The House of Delegates shall divide the State into Councilor Districts, specifying what counties each district shall include, and, when the best interest of the Association and the profession will be promoted thereby, organize in each a district medical society, of which all members of the component county societies shall be members.

Section 7. The House of Delegates shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

Section 8. The House of Delegates shall approve an annual budget of expense to be submitted to it by the Council.

Section 9. It shall approve all memorials and resolutions issued in the name of the Association before they shall become effective.

#### Chapter IV.—Election of Officers.

Section 1. The House of Delegates on the first day of the Annual Session shall elect a committee on nominations consisting of -----delegates, one from each councilor district. The committee on nominations shall report the result of its deliberations to the House of Delegates in the form of a ticket containing the names of -----members for the office of President-Elect, and of one member for each of the other offices to be filled at that Annual Session. No two candidates for President-Elect shall be from the same district, and each candidate for Councilor must be a resident of the district for which he is nominated.

Section 2. The report of the nominating committee and the election of officers shall be the first order of business of the House of Delegates at the -----meeting of the House.

Section 3. All elections of officers shall be by ballot and a majority of the votes cast shall be necessary to elect except for delegates and alternates to the American Medical Association. In case no nominee receives a majority of the votes on the first ballot, the nominee receiving the lowest number of votes shall be dropped and a new ballot taken. This procedure shall be continued until one of the nominees receives a majority of all the votes cast, when he shall be declared elected. In case no delegates or alternates for the American Medical Association receive on the first ballot a majority of the vote, the nominees shall be declared elected in the order of the highest number of votes received, until the allotted number shall have been chosen. In case of a tie vote for delegate or alternate, the tie shall be determined by lot.

Section 4. Nothing in this chapter shall be construed to prevent additional nominations being made from the floor by members of the House of Delegates.

Section 5. No person known to have solicited votes for or sought any office within the gift of this Association shall be eligible for any office for two years.

Section 6. Delegates shall not be eligible for election to any of the offices named in the Constitution, except that of Councilor.



### Chapter V.—Duties of Officers.

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; he shall deliver an annual address at such time as may be arranged, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, as far as practicable, shall visit, by appointment, the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

#### OR

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates. He shall appoint, by and with the consent of Council, a committee of three from the Council, on Auditing and Appropriations, and a committee on Arrangements for the Annual Session. Each of these committees shall serve for a term of one year. He shall appoint all committees for the selection of which other provision is not made. He shall deliver an annual address at such time, during the Annual Session, as may be arranged. He shall give a deciding vote in case of a tie. He shall be the chairman of the Council, and shall perform such other duties as parliamentary usage may require. He shall be a member of the Council for a period of one year immediately succeeding his term of office. He shall be ex-officio a member of all committees of the Association.

Section 2. The President-Elect shall be a member of the Council ex-officio, shall act for the President in his absence or disability. If the office of President should become vacant the President-Elect shall succeed to the presidency.

Section 3. The Treasurer shall give bond in the sum of \$----- He shall demand and receive all funds due the Association, together with bequests and donations. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

Section 4. The Secretary shall attend the General Meetings of the Association and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be Secretary of the Council. He shall be custodian of all record books and papers belonging to the Association, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the Annual Session. He shall with the cooperation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and shall transmit a copy of this list to the American Medical Association, transmitting to its secretary each month a report containing the names of new members and the names of those dropped from the membership roster during the preceding month. He shall conduct the official correspondence notifying members of meetings, officers of their election and committees of their appointment and duties. He shall employ such assistants as may be ordered by the Council and shall make an annual report to the House of Delegates.

He shall supply all component societies with the necessary blanks for making their annual reports, and shall collect from them the regular per capita assessments and turn the same over to the Treasurer. The amount of his salary shall be fixed by the Council.

### Chapter VI.—Council.

Section 1. The Council shall meet on the day preceding the Annual Session, and daily during the Session and at such other times as necessity may require, subject to the call of the chairman or on petition of three Councilors. It shall meet on the last day of the Annual Session of the Association to organize. It shall make an annual report to the House of Delegates.

Section 2. Each Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and to keep in touch with the activities of and to aid in the betterment of the component societies of his district. He shall make an annual report of his work and of the condition of the profession of each county in his district at the Annual Session of the House of Delegates. The necessary travelling expenses incurred by each Councilor in the line of duties herein imposed may be allowed on a proper itemized statement, but this shall not be construed to include his expense in attending the Annual Session of the Association.

Section 3. The Council shall be the executive body of the House of Delegates and between sessions shall exercise the power conferred on the House of Delegates by the Constitution and By-Laws.

The Council shall be the Board of Censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or component societies, on which an appeal is taken from the decision of an individual Councilor. Its decision in all cases, including questions regarding membership in this Association, shall be final.

Section 4. Charters shall be issued to county societies only on approval of the Council, and shall be signed by the President and Secretary of this Association. Upon recommendation of the Council the House of Delegates may revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Section 5. In sparsely settled sections the Council shall have authority to organize the physicians of two or more counties into societies to be suitably designated so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Section 6. The Council shall provide for and superintend the issuance of all publications of the Association, including proceedings, transactions and memoirs, and shall have authority to appoint an editor and such assistants as it deems necessary. It shall prescribe the methods of accounting and through a committee of three of its members to be known as a Committee on Auditing and Appropriations, shall audit all accounts of this Association. The Council shall adopt an annual budget

providing for the necessary expenses of the Association, which shall be prepared and presented for its consideration by the Committee on Auditing and Appropriations at the first meeting of the Council in-----of each year. It shall submit an annual report to the House of Delegates, which shall specify the character and cost of the publications of the Association, the amount and character of all of its property, and shall provide full information concerning the management of all affairs of the Association which the Council is charged to administer.

Section 7. The Council shall appoint, at least six months before the annual meeting, a committee, consisting of three of its members, to be known as the Committee on Arrangements for the annual meeting. On recommendation of this committee, the Council shall appoint a general chairman of a local committee on arrangements, who shall be a member of the component society of the county in which the annual meeting is to be held, and who shall appoint and organize from the members of this county society the personnel of the local committee on arrangements. The local committee on arrangements shall provide suitable meeting places and shall have general charge of all local arrangements subject to the approval of the Committee on Arrangements for the annual meeting. All receipts accruing from the annual meeting shall be turned over to the Committee on Arrangements and all expenditures made by that committee in connection with the annual meeting must be authorized in advance by the Committee on Auditing and Appropriations. Immediately after the annual meeting the Committee on Arrangements shall forward to the Treasurer any accumulated balance. Any deficit created on account of the annual meeting shall be met by the Council on recommendation of the Committee on Auditing and Appropriations.

Section 8. The Council shall by appointment, fill any vacancy in office not otherwise provided for which may occur during the interval between annual meetings of the House of Delegates; the appointee shall serve until his successor has been elected and qualified.

Section 9. The Council may employ an Executive Secretary, who need not be a physician nor a member of the Association.

Section 10. The salaries of all employees of the Association shall be fixed by the Council.

Section 11. The Council shall provide such headquarters for the Association as may be required to conduct its business properly.

#### Chapter VII.—Committees.

Section 1. The standing committees of this Association shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy.

A Committee on Publication.

A Committee on Medical Defense.

A Committee on Medical Education and Hospitals

A Committee on Medical Economics.

Unless otherwise provided in these By-Laws, each of these committees shall consist of three members, each of whom shall serve for a term of three years. One member of each of these committees shall be appointed annually by the President, by and with the consent of the House of Delegates, provided that at the-----Annual Session one member of each of the foregoing committees shall be appointed for a term of three years, one each for two years and one each for one year.

Section 2. The Committee on Scientific Work

shall consist of three members, of which the Secretary shall be one, and shall determine the character and scope of the scientific proceedings of the Association for each session, subject to the instructions of the House of Delegates. Thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers and discussions shall be presented.

Section 3. The Committee on Public Policy shall consist of three members, and the President and the President-Elect. There shall be a joint meeting of this committee and an auxiliary committee, as provided for in Chapter-----Section-----of these By-Laws, held annually, as may be ordered on the call of the chairman or three members of the State Committee. The chairman of the State Committee, and in his absence, the President, shall act as chairman at the joint committee meetings. Under the direction of the State Committee, the joint committee shall represent the Association in securing and enforcing legislation in the interest of public health and of scientific medicine.

Section 4. The Committee on Publication shall have referred to it all reports on scientific subjects, and all scientific papers and discussions heard before the Association. It shall be empowered to curtail, abstract or reject papers and discussions. The committee shall have authority to arrange for the publication and distribution of The Journal.

Section 5. The Committee on Medical Defense shall prepare plans and establish rules for the defense of members of this Association against whom suits for alleged malpractice have been brought. It may assist in the defense of any member sued for alleged malpractice if the member was in good standing and had complied with the rules of the committee when the service on account of which suit was brought was rendered.

Section 6. The Committee on Medical Education and Hospitals shall serve in this State for the Council on Medical Education and Hospitals of the American Medical Association, and shall have referred to it all questions pertaining to hospitals and medical education.

Section 7. The Committee on Medical Economics shall investigate matters affecting the economic status of physicians and shall report annually to the House of Delegates such recommendations as may, in its judgment, seem proper.

Section 8. Reports of the standing and special committees shall be published in the official Journal of the month preceding the date of the Annual Session of this Association, and these reports must be in the hands of the Secretary sixty days in advance of the Annual Session.

#### Chapter VIII.—Dues and Assessments.

Section 1. The annual dues and assessments shall be determined by the House of Delegates, and shall be levied per capita on the members of the Association. They shall be payable on or before January 1, of the year for which they are levied. The Secretary of each component society shall cause to be collected and shall forward to the offices of the Association the dues and assessments for its members, together with such data as shall be required for a record of its officers and membership. Any member whose name has not been reported for enrollment and whose dues for the current year have not been remitted to the Secretary of this Association on or before April 1, shall stand suspended until his name is properly reported and his dues for the current year properly remitted.

Section 2. The record of payment of dues and



assessments on file in the office of the Association shall be final as to the fact of payment by a member and as to his right to participate in the business and proceedings of the Association and of the House of Delegates.

Section 3. For the purposes of medical defense a member shall be deemed in arrears from and during the period extending from January 1 of the current year until his dues and assessments shall have been received at the offices of the Association, having been remitted by the Secretary of the component society of which he is a member.

Section 4. Any county society which fails to make the reports required, at least thirty days before the Annual Session of the State Association, shall be suspended, and none of its members or delegates shall be permitted to participate in any of the proceedings of the Association or of the House of Delegates.

#### Chapter IX.

The ethical principles governing the members of the American Medical Association shall govern members of this Association.

#### Chapter X.

The deliberations of this Association shall be conducted in accordance with parliamentary usage as defined in Robert's Rules of Order.

#### Chapter XI.

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws shall, upon application to the Council, receive charters from this Association, provided that their Constitutions and By-Laws shall have been submitted to the Council and received its approval.

Section 2. Only one component medical society shall be chartered in each county.

Section 3. Each county society shall judge of the qualifications of its members, subject to review and final decision by the Council of the State Association. Every reputable and legally qualified physician who does not practice, nor profess to practice sectarian medicine, and who is a bona-fide resident of the same county, shall be eligible for election to membership.

A member of a component society whose license has been revoked shall be dropped from membership automatically as of the date of revocation. The Council of the State Association shall have final authority to expel a member should a component county society fail to do so after being so requested by the Council.

A physician living near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

Section 4. Any physician who may feel aggrieved by the action of the society of his county in suspending or expelling him, shall have the right to appeal to the Council, whose decision shall be final. A county society shall at all times be permitted to appeal or refer questions involving membership to the Council of the State Association for final determination.

Section 5. In hearing appeals the Council may admit oral or written evidence as in its judgment will most fairly present the facts, but in the case of every appeal both as a board and as individuals, the Councilors shall, preceding all such hearings, make efforts at conciliation and compromise.

Section 6. When a member in good standing

in a component county society moves to another county in this State, he shall be given a written certificate of these facts by the Secretary of his society, without cost, for transmission to the Secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he removes such member shall be considered to be in good standing in the county society from which he was certified and in the State Association to the end of the period (respectively) for which his dues have been paid.

Section 7. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county. Systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it includes every eligible physician in the county.

Section 8. At some meeting in advance of the Annual Session of this Association, each component county society shall elect one or more delegates and an equal number of individual alternates therefor to represent it in the House of Delegates of this Association, in accordance with Chapter III, Section 2, of these By-Laws. The Secretary of each county society shall send a list of such delegates and alternates to the Secretary of this Association at least thirty days before the Annual Session. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions.

Section 9. The Secretary of each county society shall keep a roster of its members and if practicable, a list of nonaffiliated physicians, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary by Council. He shall send a copy of the program of each county meeting to his district Councilor and to the Secretary.

Section 10. Each county society shall appoint or elect one of its members as a member of the auxiliary Committee on Public Policy, and the county society secretary shall send his name and address at once to the Secretary of this Association. The Committee on Public Policy of this Association shall formulate the duties of this auxiliary committee and supply each member with a copy. The auxiliary committeemen shall be accountable to their county societies and to the Council for prompt response to and continued cooperation with the Committee on Public Policy of this Association.

#### Chapter XII.

Section 1. These By-Laws may be amended at any Annual Session by a majority vote of the delegates present at that session, if the proposed amendment has been properly submitted to the House of Delegates and has lain on the table for one day.

Section 2. Upon the adoption of this Constitution and these By-Laws, all previous Constitutions and By-Laws are thereby repealed.

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**Program (Incomplete) of the Annual Meeting at Kansas City, Kansas**  
PROGRAM MAY 4, 5 AND 6

**President's Address—Dr. F. A. Carmichael, Osawatimie.**

"Pre-cancerous Dermatoses"—Dr. S. T. Millard, Topeka.

Discussion opened by Dr. W. B. Goddard, Topeka.

"Crippled Children Problem in the State of Kansas"—Dr. E. D. Ebright, Wichita.

"Trachoma, its etiology and treatment"—Dr. James W. May, Kansas City.

Discussion opened by Dr. D. I. Maggard, Wichita.

"Fractures of the Shaft of the Femur"—Dr. Richard S. Haury, Newton.

Discussion opened by Dr. M. L. Bishoff, Topeka.

"A Part Time Health Officer"—Dr. O. E. Stevenson, Oswego.

Discussion opened by Dr. J. C. Montgomery, Topeka.

"A Study of 1000 Stillbirths"—Dr. Earle G. Brown, Topeka.

Discussion opened by Dr. L. Leverich, Kansas City.

"Prevention and Treatment of Smallpox, Diphtheria and Scarlet Fever"—Dr. L. B. Gloyne, Kansas City.

Discussion opened by Dr. N. P. Sherwood, Lawrence.

"Tularemia"—Dr. W. G. Gillett, Wichita.

"Some of the Problems Confronting the Physician on Directing the Tuberculosis"—Dr. C. S. Kenney, Norton.

Discussion opened by Dr. J. A. Fulton, Kansas City.

"Cancer of the Lip—Report of 25 cases treated with Radium"—Dr. Marion Trueheart, Sterling.

Discussion opened by Harry E. Blasdel, Hutchinson.

"Incipient Hyperthyroidism"—Dr. G. F. Corrigan, Wichita.

Discussion opened by Dr. C. C. Nesselrode, Kansas City.

"Influence of the Kielland Forcep Technic on Interuterine Delivery"—Dr. L. S. Nelson, Salina.

Discussion opened by Dr. L. E. Haughey, Concordia.

"Meckles Diverticulum"—Dr. Marvin Hall, Topeka.

Discussion opened by Dr. Robert B. Stewart, Topeka.

"The Clinical Interpretation of Blood Pressure Values"—Dr. P. M. Krall, Kansas City.

Discussion opened by Dr. C. F. Menninger, Topeka.

"Nephrosis"—Dr. C. A. Lilly, Atchison.

Discussion opened by Dr. L. W. Shannon, Hiawatha.

"The Pupils in Coma"—Dr. Wm. C. Menninger, Topeka.

Discussion opened by Dr. Thor Jager, Wichita.

"Action of Tobacco and other Extracts on the Epithelial Cells"—Dr. Ferdinand C. Helwig, Kansas City.

Discussion opened by Dr. J. L. Lattimore, Topeka.

"The Radiographic Evaluation of the Pulmonary Tubercular Lesion"—Dr. Lewis G. Allen, Kansas City.

"Fake Doctors"—Dr. S. N. Chaffee, Talmage.

Discussion opened by Dr. J. N. Dieter, Abilene.

"Muscular Exercises in the Correction and Development of the Nose and Face"—Dr. H. B. Robison, Great Bend.

Discussion opened by Dr. J. A. Dillon, Larned.

Dr. M. L. Perry, Topeka—Subject announced later.

#### OUR GUESTS

Dr. J. P. Greenhill, Chicago, "Management of the Second Stage of Labor."

Dr. H. Winnett Orr, Lincoln, Nebraska, "Fractures."

Dr. H. C. Goodson, Colorado Springs, "General and Local Rest in the Treatment of Pulmonary Tuberculosis."

Dr. Jno. M. Dodson, Chicago, Secretary Bureau of Health and Public Instruction, American Medical Association, "Preventive Medicine."

#### CHIPS

Civilized existence is a hectic experience.

Armored Heart? So far as we can learn, but fifteen cases have been reported.

Nurses are advertising for doctors as helpers. A nurse with three years' active experience in a hospital is no mean proposition for a doctor to bump up against. But the doctor has made his own competition.

Dioxyacetone is the new agent recently discovered that will lower the blood sugar. It is the new cure for diabetes? The medicine is taken per orum. This does away with injecting the medicine into the tissues.

The agent is obtained from glycerine on which a certain bacterium has been allowed to act.—Pathfinder.

The claim is made now, that the smallest organisms that can live can be seen. That a living organism cannot be smaller than from thirteen to thirty-two millimicrons. That even the virus of smallpox can be seen.

So says Professor Bechold of the Institute



for Colloid Research of Frankfort University, an unseen enemy is dreaded worse than a seen enemy.

These tiny diseases producing organisms have been doing their dirty work under cover like a thief in the night, up to date, but now, bringing them out in the open, their career can be cut short.

An Ohio chemist insists that a person when angry should not eat hard boiled eggs. Why? Because when mad the increased acidity of the stomach will oxidize some of the component parts of the hard boiled egg and convert it into muscarine. Muscarine is the poison associated with toadstool and it incites to frenzy—C?

There are some women investigators scientists who have succeeded in changing the sex of the frog. In those countries where there are so many more women than men, sex change will relieve the shortage of men. It would appear that an additional name would have to be added to the classification—"Male and female created He them." We suggest that in the record be written a revised, up to date classification viz., Male, Female and Mugwump.

Mallory (Arch. Intern. Med. March, '26) says: "Evidence is slowly but steadily accumulating in favor of the view that chronic poisoning with copper causes the symptom complex known under the different names of hemochromatosis, bronzed diabetes and pigment cirrhosis." He concludes therefore that copper should not be used where it may come in contact with foods or drinks, especially if they contain acids of any sort, because it is so readily dissolved by many of them. It should not be used for cooking utensils, for shakers for cocktails or acid drinks, nor in stills. He thinks there is probably no danger from copper used in pipes for drinking water and in hot water heaters.

Hilding Anderson, from experiments on rabbits, reported in the Archives of Internal Medicine, March 1926, concluded that hypertension is not caused by renal insufficiency per se; nor by a high protein diet even in the presence of a low renal function; nor by long retention of creatinin and urea in the blood. In rabbits a high protein diet results in a marked athero-sclerosis of the aorta which does not extend to the small arteries, but these changes do not result from low renal function or from prolonged retention of creatinin and urea in the blood. A high protein diet caused hypertrophy of the kidneys in normal rabbits.

In his recent book "Facts on the Heart" Cabot makes the following statement "Mitral regurgitation without stenosis is the commonest diagnosis now made by American physicians in cases of real or suspected heart disease. Yet this lesion is exceedingly rare post-mortem; only seven cases, three of them doubtful, were found in 1846 necropsied cases of heart disease. In the same series there were 107 of mitral stenosis.

Even in rare cases wherein mitral regurgitation without stenosis does exist, there are no physical signs by which it can be recognized or reasoned out, so that a diagnosis of mitral regurgitation without stenosis is never justified.

## —R— SOCIETIES

### RILEY COUNTY SOCIETY

The Riley County Medical Society met at the Gillett Hotel at 6 p. m.

Members present Drs. Bressler, Colt Sr., Lemon, Reitzel, Ross, Cave and Mathews.

The minutes of the last meeting were read and approved.

The first order of business to be acted upon was Reports of Cases since last Meeting.

Drs. Colt Sr., Reitzel, Ross and Lemon gave an interesting report of several cases.

Dr. Reitzel read an interesting paper on Report of Case of Malignancy of the Thyroid. The paper was discussed by Drs. Colt and Cave.

Under New Business, a motion was made that the Riley County Medical Society donate \$15 worth of services to the Chamber of Commerce for the Country Store to be held in April at the Community House. The motion was seconded and carried.

Dr. Colt Sr. announced that the Riley County Medical Society were invited to be guests for lunch at the Rotary Club for a medical program on April 18th.

Meeting adjourned.

J. R. MATHEWS, Secretary

### WILSON COUNTY SOCIETY

The regular meeting of the Wilson County Medical Society was held at Neodesha, Monday evening, March 8th.

Dr. Donald R. Black of Kansas City was the speaker of the evening. His subject was "Pathological Kidneys and Hypertension." He spoke for one hour and fifteen minutes. Dr. Black showed a thorough knowledge of his subject and those present were much pleased. We hope he will address this society again.

The following physicians were in attend-

ance from outside the county: Drs. C. C. Surber, C. W. DeMott, Thomas E. Smith, W. E. Youngs, W. S. Hudeburg, J. A. Pinkston, C. O. Shepard, F. W. Shelton, E. P. Furgeson, W. C. Chaney, of Independence, Kansas; W. G. Norman and B. L. Hale, of Cherryvale; and Dr. Paul Whiffen and Dr. C. A. Chumway, dentists of Fredonia.

Adjourned to meet at Fredonia in April.  
E. C. DUNCAN, Secretary

#### NORTHEAST KANSAS SOCIETY

The annual meeting of The Northeast Kansas Medical Society was held in Lawrence, Thursday, March 25 at 2 p. m.

The following papers were read:

The Chemistry of Cancer, by C. F. Nelson, M. D., Lawrence. Discussion opened by M. T. Sudler, M. D., Lawrence.

Some Salient facts in Regard to the Future control of Typhoid Fever in Kansas, by C. H. Kinnaman, M. D., Topeka. Discussion opened by Robert B. Stewart, Topeka.

Studies of the Recent Scarlet Fever Epidemic in Lawrence, by N. P. Sherwood, M. D., Lawrence and V. M. Auchard, M. D., Lawrence. Discussion opened by Earle G. Brown, M. D., Topeka.

Varicose Veins and Ulcers, by L. F. Barney, M. D., Kansas City. Discussion opened by R. C. Lowman, M. D., Kansas City.

Dinner was served at Wiedeman's Tea Room at 6 p. m.

#### PERSONALS

Dr. C. J. Ryan has returned to Severance after several years absence and has resumed his practice at that place.

Dr. C. E. Thompson, formerly located at Oxford, Kansas, has moved to Harlingen, Texas.

Dr. C. S. Adams has returned to St. John, Kansas, after a period spent in California.

The Munn Memorial Building, an extensive and modern addition to Stormont Hospital was opened March 15, and a public reception held. A large number of people took this occasion to visit the Hospital.

Dr. Arthur Schuller of Vienna is scheduled to address the Jackson County Medical Society, Kansas City, Missouri, April 27th. He will also give a four hour course of instruction on the interpretation of roentgenograms of the skull. Dr. E. H. Skinner will register applicants for this course.

Dr. M. O. Nyberg, formerly Secretary of the State Board of Health is taking a clinical course in the Barnard Free Skin and Cancer

Hospital at St. Louis. He expects to locate in Wichita when his course is completed.

Dr. C. W. Longnecker formerly of Kingman has recently moved to Norwich, Kansas.

#### MEDICAL SCHOOL NOTES

Dr. David Klein of Chicago, who is in charge of the Wilson & Co., Laboratories, was a recent visitor to the Medical School, as a guest of Dr. Major.

Dr. M. J. Renner, '22, was a recent visitor.

Mr. W. Y. Morgan, Chairman of the Board of Regents, was a visitor at the Medical School on February 25.

Dr. F. C. Helwig read a paper on Recent Developments in Cancer Research, at the meeting of the Wyandotte County Medical Society on March 16.

The Senior and Junior Classes of the Medical School gave a dance in honor of the Nurses of Bell Memorial Hospital on March 3, at Drexel Hall. The members of the Staff and their wives, and the Sophomore class were guests.

Dr. C. B. Francisco collaborated on a paper on Cases of Disturbed Metabolism of Bone, at a recent meeting of Jackson County Medical Society.

The University of Kansas School of Medicine has established a free clinic for crippled children at Hutchinson, Kansas, where Dr. C. B. Francisco makes monthly trips to examine and treat these cases.

Dr. T. G. Orr read a paper at a meeting of the Labette County Medical Society at Parsons, Kansas, on February 24, on Fractures.

Dr. L. G. Allen gave an interesting talk on the X-Ray Diagnosis of Bone Lesions, at a recent meeting of the Wyandotte County Medical Society. He presented a large series of lantern slides on this subject.

Dr. C. C. Nesselrode gave a paper on Endarteritis Obliterans at a recent meeting of Wyandotte County Medical Society.

Dr. T. G. Orr, Professor of Surgery, has just received copies of the first edition of his recently published book, "Modern Methods of Amputation."

Dr. Russell L. Haden recently spoke at a



meeting of Crawford County Medical Society on Focal Infection, and on March 16, gave a paper on Bacteriology of Chronic Periapical Dental Infection, at The Jackson County Medical Society.

Dr. E. T. Gibson gave a paper on Neuro-Muscular Lesions in Rickets and Tetany, at a recent meeting of the Jackson County Medical Society.

Dr. W. A. Myers, in collaboration with other doctors, gave a paper on Blood Pictures and Local Destructive Tissue Changes Found in Three Cases of Dental Extractions, at a meeting of the Jackson County Medical Society on March 16.

Mrs. Patrick, a member of the Board of Regents was a recent visitor at the Medical School.

Dr. Russell L. Haden, Professor of Experimental Medicine, has the distinction of being one of the American editors of *Folia Haematologica*, a well known German Journal for Clinical and Morphological Blood Investigation.

Dr. H. R. Wahl will have active charge of the Immunology Exhibit at the meeting of the A. M. A., at Dallas, Texas, April 19-23. Dr. Russell L. Haden will have an exhibit on "Bacteriologic study of periapical dental infection;" Dr. Nelse F. Ockerblad will have an exhibit on "Stricture of the ureter in Males," and Dr. Clinton K. Smith will have an exhibit on "Postmortem ureteropyelographic study of infants and children."

The following members of the Medical School Staff will have papers at the meeting of the A. M. A. at Dallas:

Jejunostomy: A Clinical Review and Experimental Findings (Lantern Demonstrations.) Thomas G. Orr and Russell L. Haden.

The Action of Hepatic Extract in Hypertension (Lantern Demonstration.) Ralph H. Major.

Neurologic Manifestations in Pernicious Anemia; A New Conception Relative to Etiology. (Lantern Demonstration) A. L. Skoog.

Postmortem Ureteropyelographic Study of Urinary Tracts of Infants and Children; Its Practical Application in Urologic Diagnosis and Treatment of Children. (Lantern Demonstration.) Clinton K. Smith.

Stricture of the Ureter in Males. Nelse F. Ockerblad.

Postoperative Results of Tonsil Operations, A Questionnaire Report. Discussion to be opened by Sam E. Roberts.

Substernal Goitre: Recognition of the Toxic Patient Unsited to Thyroidectomy. Discussion by Dr. A. E. Hertzler.

## DEATHS

Dr. Cyrus Blazer McClurg, Independence, Kansas, age 40, died in January. Dr. McClurg graduated from the Washington University Medical School, St. Louis in 1912. He served in the World war. He was a member of the Kansas Medical Society.

Dr. Orrin William Nash Austin, Topeka, Kansas, aged 42, died in St. Joseph, Missouri, February 1. He graduated from the Ensworth Medical College, St. Joseph, Missouri in 1908.

Dr. Michael H. Levi, Liberal, Kansas, aged 53, died February 18. He graduated from Atlanta Medical College in 1898. He was a member of the Kansas Medical Society.

Dr. C. M. England, aged 85, died at the home of his daughter in Carthage, Missouri. Dr. England was a pioneer physician in Kansas. He left Meriden, where he had practiced for thirty years, about 1906.

Dr. James A. Barkalow, Rose Hill, Kansas, aged 71, died at the home of his daughter in Wichita, March 7. He graduated from the College of Physicians and Surgeons, Keokuk, Iowa, in 1881. He had practiced in Rose Hill for over forty years.

Dr. James E. Hyett, St. Marys, Kansas, aged 55, died at a hospital in Topeka, February 26. He graduated from Chicago Medical College in 1904.

Dr. John J. O'Brien, Chapman, Kansas, aged 60, died February 12. He graduated from the University of Louisville school of Medicine in 1890.

Dr. Alva Rufus Hull, Longton, Kansas, aged 53, died March 10 from a gunshot wound, self inflicted. He graduated from Northwestern University Medical School in 1898. He retired from the Army Service and private practice in 1918.

## KANSAS MEDICAL LABORATORY ASSOCIATION

### Testing for Proteins in the Urine

E. R. LEHNHERR

(From the Department of Biochemistry, University of Kansas, Lawrence.)

Albumin and globulin are the proteins appearing in the urine which are of the greatest general importance. Others appearing, but of less interest, are mucin and the proteoses. The former are rarely found and are associated with diseases involving the bone marrow, while the latter may be found in normal urine.

Albuminuria may be either renal or accidental. The accidental, or false albuminuria, is due to albuminous compounds (such as blood and pus) mixing with the urine. The renal type is associated with disturbances of the kidneys, and is probably due to the proteins of the blood. Accordingly we look for either serum albumin or globulin. There is no doubt about renal albuminuria being the most important, and we must accordingly, by the use of our tests, differentiate the proteins occurring in that type from the mucin and the proteoses.

The tests used by the clinicians must conform to certain conditions if they are to be of practical value. A few of these may be listed as follows:

1. Eliminate all tests due to mucin and the proteoses.
2. Eliminate all false positives due to the urates, resins, and other non-protein material.
3. Be sensitive enough to give dependable results.
4. Not be too sensitive and so lessen their value.
5. To be simple in technique and time-saving in performance.

It is important in all of the following tests to run controls with both normal and pathological urine containing a small amount of albumin. In this manner one will tend to acquire greater confidence, and at the same time clear up any tests which seem to be of questionable nature. Another important rule is 'never attempt to run tests on cloudy urine'—always filter in order to obtain a clear sample.

Heller's is one of the most widely known of the common tests. The technique is simple and consists in stratifying the urine above nitric acid. A white ring at the junction of the two liquids generally indicates albumin. Todd has described a modification of this test which we have found to

be of much value. Dip a clean glass tube into the urine, placing the finger over the end before removal. Transfer to a test tube containing about one-half inch of nitric acid. Remove the finger and allow the acid to displace the urine. This results, even with traces of albumin, in a clear cut ring at the junction of the two liquids in the smaller tube. Heller's test is not specific for globulin and albumin, but responds also to proteoses, mucin, uric acid, urea nitrate, and resins. However the rings due to mucin and the proteoses are very similar to that of albumin. The test does not appear positive immediately with traces of albumin but may require several minutes for the development. Colored rings due to urinary and bile pigments may be obtained.

Robert's test is very similar to the above, but has the advantages of being less corrosive, possibly slightly more sensitive, and eliminating the colored rings. Otherwise the test is the same as Heller's.

The sulphosalicylic acid test is more sensitive than either of the above and more reliable in that urates and resins are not precipitated. Unfortunately both mucin and the proteoses respond to the test. It is performed by adding a few drops of twenty per cent solution of the acid to the urine and comparing with the controls.

The heat and nitric test is one of the oldest and most reliable of the common tests. It is carried out by the addition of one to three drops of nitric acid to the urine after it has been heated. A cloudiness produced on heating due to alkaline phosphates will clear up on the addition of the acid, while if due to albumin will remain. A trace of albumin may not produce a turbidity until after the addition of the acid. This test is very dependable if read while hot so as to eliminate positives due to the proteoses which appear on cooling.

Another test more sensitive than either of the above and still ruling out positives due to mucin, proteoses, and non-protein material is the salt-acetic test. This is performed by the addition of one-fifth to one-third volume of saturated sodium chloride to the urine, acidifying with acetic acid, and heating. Compare with the controls. Instead of heating the whole solution one may heat only the upper part, and a turbidity appearing proves the presence of albumin. The action of the salt is supposed to increase the specific gravity and keep the mucin in solution.

We have recently had occasion to check up the sensitivity of the above tests with the following results:



Salt acetic acid test 1-80,000 (.0012%)  
 Nitric acid heat test 1-40,000 (.0024%)  
 Sulphosalicylic acid test 1-10,000 (.01%)  
 Robert's and Heller's  
   tests 1- 1,000  
   but negative at 1-10,000

Above data is based on dilution at which test still confirms the presence of albumin.

## BOOKS

Lectures on Nutrition. A series of lectures given at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Nebraska, Iowa, and Washington (St. Louis) 1924-25. 12mo 243 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, \$2.50 net.

These lectures were given by the persons who had been engaged in extensive research work in the field of nutrition, and these lectures embody the most important results of that work and is an authoritative review of our present-day knowledge of the important problems of nutrition.

The Surgical Clinics of North America (Issued serially, one number every other month.) Volume V Number VI. Philadelphia Number—December 1925. 223 pages with complete index to volume 5 and 50 illustrations. Per clinic year (February 1925 to December 1925.) Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

John B. Deaver has first place in this number of the clinics and covers a large variety of subjects. The clinic of Charles H. Frazier includes the surgical treatment of trigeminal neuralgias, surgery of spinal cord tumors and the surgical treatment of pituitary disorders. The clinic of Dr. George P. Muller, University Hospital is especially interesting and covers a large field. There are also the clinics of Dr. Brooks M. Anspach, Jefferson Hospital; Dr. Leon Herman, Pennsylvania Hospital; Dr. Herbert L. Northrop, Hahnemann Hospital. These were all clinics given at the various hospitals during the meeting of the American Congress of Surgeons in Philadelphia in October.

Lectures on Heredity. A series of lectures given at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Nebraska, Iowa, and Washington (St. Louis) 1923-24. 12mo 250 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, \$2.50 net.

This volume presents to the reader what is now really known on the subject of heredity. The lectures were delivered by persons who had conducted the several researches from which the conclusions were drawn. Questions of general interest are fairly well covered.

Ears and the man, studies in social work for the deafened by Annetta W. Peck, Estella E.

Samuelson, Ann Lehman, Published by F. A. Davis Co., Philadelphia, Price \$2.00.

The three women, the authors of this book, are themselves deafened and naturally their presentation of the subject contains much that is drawn from their own experiences. A great deal can be done and should be done for the unfortunate sufferers from deafness. Reading this book will certainly give any one a better view-point from which to advise his afflicted patients.

Potter's Compend of Materia Medica and Therapeutics and Prescription writing, by A. D. Bush, M. D. Ninth edition revised. Published by P. Blakiston's Son & Co., Philadelphia.

This compend has been revised to bring it into conformity with the tenth revision of the U. S. Pharmacopoeia. It is intended particularly for medical students and is a concise resume of the more important data.

Headache, its Cause and Treatment, by Dr. Thomas F. Reilly, some time Professor of Medicine, Fordham University; etc. Published by P. Blakiston's Son & Co., Philadelphia. Price \$3.00.

In this little book the author has attempted to describe the differential characteristics of every kind of headache and every known cause of headache. It is a very exhaustive treatise on one of the most common afflictions of human beings.

Clinical Laboratory Methods, by Clyde Lottridge Cummer, Ph. D., M. D., Associate Professor of Clinical Pathology, School of Medicine, Western Reserve University, etc. Second edition, revised. Published by Lea & Febiger, Philadelphia. Price \$6.50.

The book has been very thoroughly revised. Many sections have been rewritten and much new matter has been added. It is intended as a guide to physicians and to laboratory technicians. It is concise but the directions for diagnostic methods are intelligible. It is especially well illustrated.

The Pharmacopoeia of the United States. Tenth decennial revision (U. S. P. X.) by authority of the United States Pharmacopoeial Convention, 1920, prepared by the committee of revision and published by the Board of Trustees. Official from January 1, 1926. J. B. Lippincott Company, agent, Philadelphia.

The physicians of the committee were given the responsibility of finally deciding the admission of therapeutically active substances recognizing that physicians were better able than pharmacists to judge of real therapeutic value. In this revision the c.c. has replaced the mil. A considerable number of important changes have been made, both in the drugs included and in the formulas approved.

Mouth, Throat, Nose, Ear, and Eye, Non-surgical Treatment of Diseases of the, by Thomas H.

Obeneal, M. D. Published by P. Blakiston's Son & Co., Philadelphia.

One commendable feature of this book is that the author recognizes the relationship between local affections and diseases of other parts of the body. Among the subjects treated are the endocrine glands and their relation to diseases of the throat, nose, eye and ear; the vegetative nervous system and the part it plays in these diseases; the administration of vaccines and serums; hypersensitiveness, pollen therapy, etc.: focal infections.

Practical Helps in the Study and Treatment of Head Injuries, by Adolph M. Hanson, M. D. Ninety-one illustrations. Published by Richard G. Badger, Boston.

On account of the increase in the frequency of injuries to the head due to automobile accidents the general practitioner must be prepared to treat these injuries. The author has given, by text and illustrations, the anatomy of the skull and the brain. He has given with careful detail the best treatment for all of these head injuries. It should be a very practical guide to the practitioner.

Nephritis, by Herman Elwyn, M. D., Assistant Visiting Physician, Gouveneur Hospital, New York. Published by the Macmillan Company, New York.

The author has presented the individual forms of nephritis and has as far as possible correlated the clinical phenomena with the pathological changes. The chapter on the physiology of the kidney is comprehensive. Tests for renal insufficiency are fully described. There is a chapter on hypertension in which its relations to the kidney are analysed.

Facts on the Heart, By Richard C. Cabot, M. D., Professor of Medicine and Social Ethics, Harvard University. Octavo of 781 pages with 163 illustrations, Philadelphia and London: W. B. Saunders Company, 1926. Cloth, \$7.50 net.

The title of this book is very suggestive. The text of the book is very convincing. The correlation of clinical findings with necropsy findings usually leads to some definite conclusions, frequently throws light into the obscure phases of an old subject. Dr. Cabot has, by this method, deducted some facts in regard to the heart, that do not harmonize entirely with the teachings of the past or the present. Since they are based on the necropsy findings in cases where the clinical pictures had been carefully preserved they must be regarded with more than ordinary respect. These studies have indeed given one quite a simplified conception of the cardiopathies.

International Clinics—A quarterly of illustrated clinical lectures and original articles in the various

apartments of medicine and surgery. Edited by Henry W. Cattell, M. D., with the collaboration of numerous others. Volume 1, thirty-six series. Published by J. P. Lippincott Company, Philadelphia, Pa.

Among the papers in this volume may be mentioned: Blood dilution in the pathology and treatment of attacks of gout, by L. M. Jourda of France; Radiotherapy of the blood and lymph tissues, by Joseph Muir; Contra-indications for the use of radium in gynecology by C. Jeff Miller. There are articles also by Cushing, Reifenstein, Laroque, Krappelin, (Germany) Plant (Germany), Ashhurst, Dr. Kraff, Snow, Weber (England), Gwyn, Mason, Hendricks, Horgan, Nassou, Brickner and Milch, Coupal, Balfour and Reid.

### —R— Our National Doctor's Bill—The Public's Debt

(Continued from March issue.)

The figure arrived at here is not intended as one of discourtesy to any city or section in any of the states, it is merely taken to arrive at an evaluation of the national service of the physician—as a basis, if you please, for a more thorough evaluation of his service, and with the hope that a national census may be taken which will be thorough, complete and satisfying.

Therefore we will set down as our premise that the balance of the country gives pro rata a service of but 50% of that given by the City of New York. This abnormally low computation shows that the physicians national bill would total, \$135,553,554.

If we place the total number of registered physicians at 165,000 nationally and divide this into the figures above attained, we find that each and every physician in the United States should be credited with \$821 gratuitous service every year. Of course, every physician is not connected with a hospital or similar institution giving gratuitous service to the poor, and this figure is attained, therefore, by making a spread of the entire bill over the 165,000 registered physicians.

Then, again, it must be remembered that this sum does not in any sense measure the free service of which no accounting ever has been made or ever can be made—of the charity or free service that the physicians give to the poor whom they meet in their daily practice. Just what this bill would amount to, God only knows, because the physician never keeps account of it, and if you happen to mention it to him he will laugh it off, saying "Oh, that's for the good of the service—for the good of mankind."



But there is another element that enters into this question of service, for which the physician never is paid, and this is the most baneful element, the unpaid bills of those who are well able financially to meet their obligations to their physician. Every family doctor has a number of these every year upon his books, and if the facts and figures were recorded, of the money lost to the physicians in this way, it would stagger one and give to each a twinge of conscience. And when one considers that the measure of the physician's service is intimate, personal and means relieving the individual of pain, suffering, the saving of a limb, aye, the saving of a life perhaps, this negligence takes on an aspect that is indescribable.

With this situation well in mind, can there be any question as to why so many physicians eke out meagre existences, and that many—the majority—die without estate, and that many become public charges because of financial distress? And with the costs of living rising like the tides, is it any wonder that so many of them are engulfed and have to enter almshouses, or that those capable of it have to seek employment in other lines in order to maintain themselves decently?

#### THE MEN OF PURE SCIENCE

Again, there is an aspect to the situation which presents a problem that never can or will be solved in the approach that is being made to solve problems of similar kind these days; that is the problem of the man of pure science—the man who devotes himself to the science of medicine and employs his time digging and delving in the laboratory to seek some panacea for the existent ailments of life, or who, built in more heroic mould, submits himself to the torture of disease through inoculation, that he may record the symptoms, and that his brother physicians may record the progress of disease in him, so that mankind may be benefited as the result of his sacrifices and studies.

To evaluate this service of the physician is something beyond the power of figures, or dollars or cents, because there is the jeopardy of life always, and who can say as to the value of a life given in this manner?

The next element is that of the man who through pure service to the public is stricken down, who has to leave his bed at the call of the patient at unseemly hours; who answers call after call in this manner, totally unmindful of his own physical well-being, knowing only that some one is suf-

fering, and that his duty is to relieve that suffering. When this man becomes aged, penniless and is incapacitated from going the daily round of the old family doctor, should there not be some place to which he may go; some place to which his eyes may turn in hope and solace?

And then as to the good wife, who has shared his burden through life, and whose warnings and entreaties have fallen upon deaf ears, the only call being heard being that of service,—what is to become of her? Is she to be sent to the poor-house over one hill, and he to be sent to another over the other hill, and thus these twain parted at a time of life when the affectionate companionship of years should solace their few remaining days?

Is this to be their lot! What is to become of the vaunted ethics, the service and the pride of the medical profession if this be permitted? To take care of one's own is a natural impulse; to take care of others is called charity, but to take care of those who sacrifice their health, their strength, their years, their service, in behalf of the public or in behalf of their profession—this calls not for charity, it is a call to duty.

Today there is reported a dearth of physicians throughout the country. There are hundreds of communities where one doctor has to serve many such. The poor compensation, bad debts, unseemly hours, the personal hazards to health, limb and life do not compensate a physician these days as against other professions, so doctors are becoming fewer proportionately in the rural districts. And this is no wonder, because according to the American Medical Association, from figures printed sometime ago, \$1,000 was the average earnings of a doctor.

And, of course, it is beyond question as to a man being able to support himself, and make his daily rounds on such a basis of compensation—much less to maintain a horse and carriage or an automobile, and a family and a home thereon.

All these problems have been revolving in the minds of certain forward-looking physicians for several years, with the result that a little experiment, or adventure, was begun up in the hills of Caneadea, New York, where there was established a trial unit of a home for aged and superannuated or ailing physicians and their wives. For four years this institution has been doing its mission of mercy and love, and now the calls upon it are so heavy that it seems due the medical profession to found a home, national in scope and service; a place where

tranquility will be theirs during their last few years of life.

And as planned by these physicians, it serves a double mercy in that it does not separate the physician from his good wife and life partner at this crucial time in their existence. Provision is made for both at the home, and the fact that it has worked out successfully adds flowers to the benison.

That this national home had not been thought of before, or had not been actually started before, is due to the diffidence of the profession in its personal affairs—it did not wish to lay bare to public scrutiny that so many within the profession are needy, or may be in actual want.

But when the facts were laid before some of our leading and far-seeing citizens the reply was instant that something must be done, and that they would sponsor the movement to raise funds for the national home.

—R—

### More Rural Hospitals Needed

Pioneer work done by many farming communities in establishing rural hospitals has been investigated by the Department of Agriculture, with the object of encouraging similar action in localities which at present are without hospital facilities. Although the movement for the establishment of rural hospitals is definitely under way, it has been checked by the increase in building and equipment costs resulting from war conditions, and by the necessity for economy in local government. Farming communities are urged by the department not to sacrifice health to their desire for economy. It is not really economical to dispense with hospitals, says the department.

As indicating the need for better rural hospital facilities, the department draws attention to the fact that there is a growing shortage of country doctors. Graduates in medicine, after going through an expensive and lengthy specialized training, prefer city practice where up-to-date medical facilities are available. They feel that to practice without these facilities is to sacrifice much of the value of their training. Accordingly, says the department, a necessary step in combating the abandonment of country practice by doctors is to furnish adequate hospital facilities in the country.

Not more than 12 per cent of the rural population of the United States, it is said, enjoys anything like modern health supervision. Forty Kentucky counties in 1924 were reported to be without adequate medical service. One of these counties had not a single doctor. In a Montana county of

5,000 square miles, there were only three doctors and no hospitals. In Minnesota 127 small villages were reported to be without doctors. Similar conditions existed in the Dakotas. This situation is believed to be largely due to the fact that modern medical education is developing physicians who will not consent to dispense with the advantages of up-to-date clinics and laboratories.

Credit for taking the initial step in a movement to satisfy the requirements of the modern physician in this respect is given to Washington County, Iowa, which was the first county in this State to take advantage of the State hospital law passed in 1909. This was the first law of its kind enacted anywhere in the United States. It authorized counties to tax themselves for hospital purposes. Under this law Washington County proceeded at once to erect a modern hospital, which is now in successful operation. Prior to that time Iowa had only one hospital bed for every 3,000 people in the small towns and rural districts. Thirty-two counties had not a single hospital bed. Since then 16 other States have passed laws similar to the Iowa law, and many rural hospitals have been built. Forty were studied by the department's investigators in making the rural hospital survey.

Rural hospitals have been of particular value in maternity cases. Although the city death rate in the United States has decreased, the rural death rate, according to health authorities, is stationary. This is largely due to the prevalence of child and maternal mortality on farms. It has been estimated that 750,000 women annually pass through child birth in the United States without medical attention. A large proportion of these women live on farms. There is no doubt, says the department, that the mortality rate among them could be greatly reduced by the provision of adequate medical and hospital facilities. Neglect of motherhood is also held responsible for many of the physical defects of children. Country school children, according to medical authorities, are handicapped by more physical defects than are the children of the city. It is considered significant, too, that, for the first time in the history of American vital statistics, the country in 1921 had a higher death rate for babies under one year than in the city.

In a report on the country hospital situation, the department describes county hospitals supported by taxes; county hospitals connected with county homes; township hospitals; town hospitals; district hos-



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pitals; community hospitals; and hospitals supported by arrangement between communities and physicians. These are all doing good work in the various circumstances to which they have been adapted. Generally, says the department, the best satisfaction is given rural people by hospitals in which they have a direct interest. Town hospitals are usually open to the farm population in neighboring territory, but are apt to be looked on by the farmers as not primarily intended for them. Trustees controlling town hospitals are urged to make their availability known to farmers.

An interesting development is the formation of hospital districts, where county and township lines make local political communities too small for efficient public service. One such district hospital has been established at Berea, Ohio, by communities in two counties. Six district political subdivisions are included in the hospital district, which was formed under a State law passed for the purpose. A new hospital building was erected at a cost of \$110,000. Community hospitals built by public subscription or by organizing stock companies and selling shares to a large number of the community have been successful. They compare favorably with other rural hospitals, says the department. One such hospital has been established at Hutchinson, Minn. An interesting event which occurred at the dedication of this hospital is recorded. Little Crow, leader of an Indian band that massacred the citizens of Ulm, Minn., in 1862, also led a band that burned the stockaded frontier hamlet of Hutchinson. At the dedication of the Hutchinson community hospital, a speech was made by Flying Earth, a granddaughter of Little Crow and a trained nurse in a Minnesota hospital. Flying Earth expressed regret for the act of her grandfather, and characterized the hospital as a "place to heal all wounds."

Southern mountain hospitals have done fine work where they have been established, says the department. Much ill health in the mountain districts has come from poor light and insufficient heat in homes, absence of sanitation, ignorance of dietetics, ignorance of the transmission of disease, early marriages with high infant and maternal mortality, and the absence of modern doctors, trained nurses, hospitals, dispensaries and clinics. In one North Carolina county of 10,566 inhabitants, out of about 5,000 people who were examined for hookworm 42 per cent were found to be infected. Of 816 school children, 2.3 per cent were suffering from trachoma, a contagious disease of the

eye. Rural hospitals and dispensaries are now being introduced, often as the result of devoted work by nurses and doctors. Health and medical officers are increasingly taking notice of the health problem presented by the 50,000,000 people living in rural territory. New State laws are removing legal obstacles to the establishment of rural hospitals, and a movement to multiply their numbers is under way. Much has already been done, says the department, to make farmers realize the value of hospitals and to remove old standing prejudices against them.

#### —R— Perineal Prostatectomy

Twenty-five years' of experience with perineal prostatectomy has convinced Parker Syms, New York (Journal A. M. A., Jan. 23, 1926), that it is the operation of choice rather than suprapubic prostatectomy. In his opinion, the two stage operation should not be resorted to as a routine. It should be reserved for cases in which it is needed; and when it is employed, the bladder drainage should be through the perineum and not through a suprapubic cystotomy. Repeated blood examinations and kidney function tests should be made, and when the patient appears to be at his optimum, if his condition may be considered reasonably satisfactory, one can proceed with the prostatectomy with little anxiety; for median perineal prostatectomy, under sacral anesthesia, entails very little risk. Thoroughly satisfactory anesthesia can be produced in nearly 100 per cent of the cases by the simple injection of a proper solution of procaine into the sacral canal. If found necessary, parasacral injections can be supplemented. Syms makes a median perineal section, with vertical incisions through the prostatic sheath on either side, enucleating first one lobe and then the other. Hugh Young's tractor is used to bring the gland within easy reach and only a small perineal catheter is inserted, with a small loose packing in the prostate sheath. Bladder irrigation is scarcely ever done. The final functional results, as far as the bladder is concerned, Syms says are as good as those following suprapubic prostatectomy, if not better. As to convalescence, there can be no comparison, as to both brevity and comfort. Patients are out of bed within from twenty-four to forty-eight hours after operation; they have bladder control and are able to go about in comfort within a week.




### Subcapital Fracture of Neck of Femur

Armitage Whitman, New York (Journal A. M. A., March 27, 1926), reports two cases in support of the thesis that subcapital fracture of the neck of the femur may unite under one form of treatment. Whitman points out that if open operation is ever to be recommended as an immediate remedy for such fractures, bone grafting operations are no more free from the element of risk than the abduction treatment itself. In his cases the abduction treatment led to perfect anatomic and functional recovery and apparently firm bony union.

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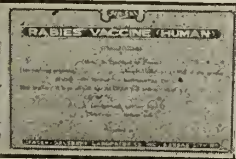
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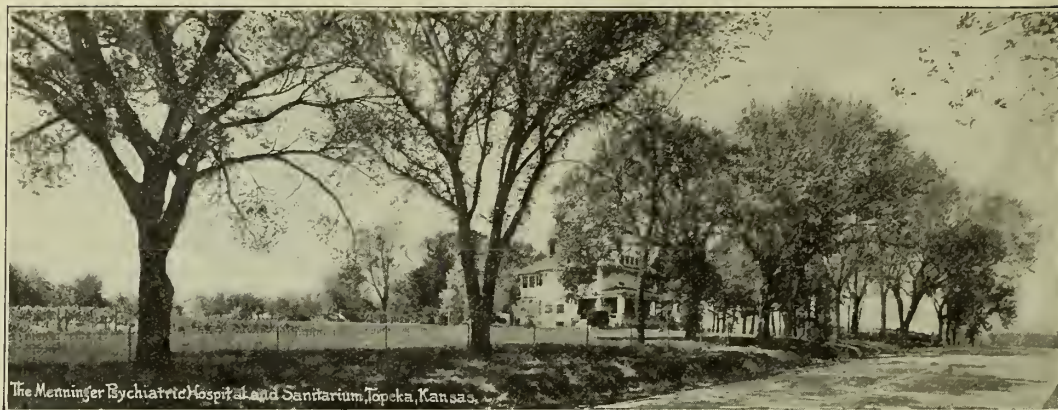
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### Lactic Acid Milk As An Additional Food For Young Infants

FRANK C. NEFF, M. D. and T. G.  
DILLON, M. D.

From the Department of Pediatrics.

It is not uncommon to find infants during the first five or ten days of life who are failing to thrive normally because of insufficient food from the mother's breast. This may be due, at the onset, to the late filling-up of the breast and later to illness of the mother, to defects of the nipple or to poor secretory function. Some newly-born infants are drowsy and sleep at the expense of eating, others express their hunger by crying immoderately. In such cases, if the weight be carefully taken each day, it will be found to keep on declining longer than the usual and become a pathological condition.

It is impossible to prevent a certain amount of loss in weight in the newly-born infant, but we believe that after the third day of life no further drop in weight need occur, if some simple artificial food is used while awaiting the breast milk. Multipara who have previously nursed their infants successfully may be expected to repeat, and healthy young primipara with normal nipples will likewise be successful. Additional feeding will probably be necessary in older primipara and in mothers who were never successful nurses.

In suggesting that in the early days of life the infant be given additional food after each nursing, the writers wish to emphasize that such a method must not be used to the extent of drying up the breast or interfering in any way with later complete maternal feeding. Furthermore, one must guard against overfeeding by this combined method. In most cases all the extra food needed in the first ten days is an ounce or two of the formula after taking the baby away from the breast. In most instances, the artificial food can soon be discontinued entirely.

The observations recorded in this paper were made while attempting to determine whether food in addition to the breast milk is needed and of benefit during the early ten days. Although sweet milk is tolerated by

many normal newly-born infants, the physician often fears that his formula by being too concentrated may upset the digestion. As a result, milk mixtures are often too dilute and are insufficient for producing regular gains. Pediatricians have known for several years that buttermilk is well tolerated during infancy and have used the naturally soured milk and the Bulgarian milk. The explanation of its greater digestibility has not been offered until the last few years. Cow's milk contains a much higher percentage of mineral salts than is found in breast milk and it is due to this fact that cow's milk is apt to be indigestible. Gastric digestion must provide sufficient acid for the milk so that the enzymes such as pepsin, rennet and lipase can act to the best advantage. When the food contains too much of the buffer salts, the gastric contents are slow in becoming acidified and make demands for hydrochloric acid secretion which is in excess of the infant's capacity to provide. An already soured milk facilitates the digestive process.

As yet we have seen no detailed report on the use of lactic acid milk in the feeding of newly-born infants, although this method has been used by several pediatricians in the last two years. Marriott has found that these infants tolerate acidified milk. Faber believes that acid milk is well handled, but suggests that the amount of acid which is added to sour the milk be gradually reduced until the infant is being fed sweet milk entirely. In the earlier experience of the writers, the suggestion first made by Marriott was followed. At that time we used one drachm of U. S. P. lactic acid to each pint of milk, but we found that sooner or later this seemed to cause some distress. For the past year we have only partially debufferized the milk, using a less amount of the acid, namely one-half drachm per pint of milk and have found this to be entirely satisfactory.

Addition of lactic acid to milk was first reported by Klotz of Germany in 1909. About three years ago Marriott advised its use in the feeding of infants suffering from marasmus. His results have been good. Faber has had equal success in feeding milk

soured with hydrochloric acid. In an earlier number of the Kansas Medical Journal, Neff reported the successful nourishment of the young infant with milk soured by lemon juice, a method proposed by Hess in 1924. The advantage of using known strengths and definite amounts of acid makes the preparation of such milk more uniform and better tasting than when milk is soured as buttermilk.

During the past two years all of the newly-born infants in the Kansas University Hospital, two-thirds of those at the General Hospital in Kansas City and about one-half of those at the St. Joseph Hospital have been given additional food soured with lactic acid. The usual formula has been

Holstein Milk (whole) . . . . . 8 ounces  
Lactic Acid, U.S.P. . . . . 15 drops  
Water . . . . . 8 ounces  
Dark Corn Syrup . . . . . 1 ounce

The method of preparation is important. The milk is gently boiled for five minutes, the scum removed and to each 8 ounces of the cooled milk is added 15 drops of the acid, stirring the milk when each drop is added.

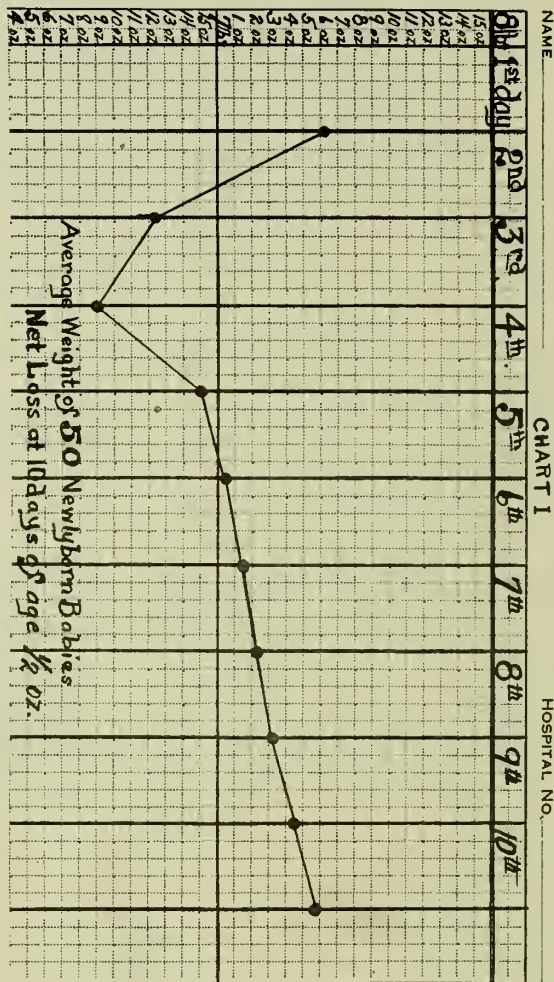
At the Kansas City General Hospital, this formula has been given to 476 infants during the first three or four days of their life or until the breast milk was established. Only six of these were not being breast fed when leaving the hospital on the tenth day.

The technique of feeding is as follows: At six hours of age, the artificial food is given in from one-half to one ounce quantity and repeated every four hours in the full-term infant. The mother is undisturbed for the first twenty-four hours, after which the baby is put to her breast regularly. When the infant is removed, one or one and one-half ounces is fed in the bottle. In addition, water is always offered the child once between meals. As soon as the breasts begin to fill up, the infant is weighed before and after nursing to ascertain the amount received and this is complemented by the bottle formula so as to bring the total feeding up to one and one-half or two ounces. If, after four or five days, the breast milk is found to be scanty, the artificial food is continued and increased if necessary so that at the tenth day, the total breast and artificial feeding may be two and one-half or three ounces.

The stools lose their meconium contents much earlier when this artificial food is begun on the first day. In some instances typical milk stools are passed by the end of the first twenty-four hours. They are smooth

and somewhat formed until the breast milk comes in when they partake of the characteristics of breast-milk stools, namely, looseness, sourness and curds.

The following weight charts were made from the records of 50 consecutive infants in the obstetrical nursery at the University of Kansas (Bell) Hospital. The cases are first grouped as a whole, (Chart 1), and then



Line showing the average weight for ten days of 50 consecutive newly-born babies who received lactic acid milk for the first few days, or until the mother's milk became sufficient. The average daily gain after the initial physiological loss is 1 1-5 ounces. In all cases, the amount of artificial food was proportionately reduced as the breast milk increased.

subdivided into those who at ten days of age weighed more than at birth (Chart 2) and those who had not regained at ten days of age what had been lost in the first two days (Chart 3).

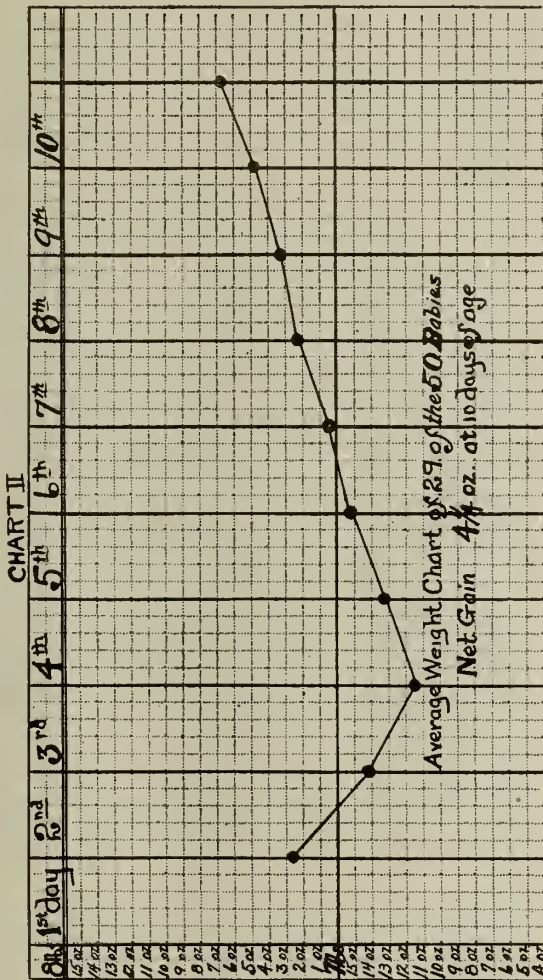
The 50 consecutive cases here reported correspond with the results in the remainder of the 700 newly born observed at the



three hospitals above named and indicate that newly-born infants as a rule do gain better when fed additional food until sufficient breast milk is supplied. When the

probably just as good, in fact for many years, the writers have not infrequently used buttermilk when additional food is needed for the newly born.

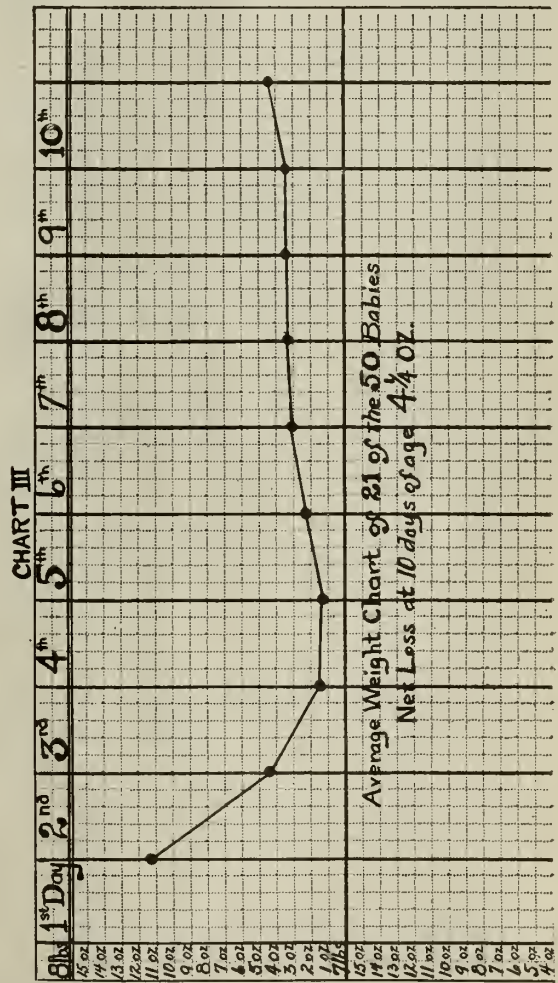
This simple method is offered as one of value to the practitioner who may be in doubt as to the food he wishes to give the young infant deprived of sufficient breast milk. It should be emphasized that breast nursing not be discontinued even if there is only a little secreted. Whether sour milk should be fed indefinitely as the infant gets older will have to be determined by further experience. It would seem wise to begin reducing the amount of acid in the formula at the age of one or two months, so that the infant will gradually become



Weight curve of 29 of the above 50 babies showing on the tenth day an average gain of four ounces above the birth weight. Increase began on an average at forty-eight hours. From this time onward the average gain was steady and amounted to one and three-fourths ounces.

infant received no breast milk, due to inability of the mother to nurse, the complete bottle feeding was equally well handled. Reports from hospital nurseries where the baby is given simply water until the breasts fill up, do not show as much or as early a gain as when complemental feeding is used. Only those infants getting large amounts of breast milk regain their birth weight by the tenth day.

The value in this method lies not in the nature of the acid in the milk, but in the fact that the milk is rendered more digestible by being sour, and more food can be handled. Milk soured in other ways is



Average weight curve of 21 of the above 50 babies who at ten days of age had not regained their birth weight, lacking six and three-quarter ounces. From the second to the tenth day the total gain is only three ounces. In some of these infants no cause could be found for the failure to gain as rapidly as the others. Drowsiness and failure to take a sufficient amount of formula are the usual reasons for lack of gain at this time of life.

tolerant of sweet milk formulae. After the age of ten days, the amount of formula fed to the child will have to be increased if the mother's milk is inconsiderable or if it tends to decrease from week to week. It is well to follow the accepted rule of providing at least one and one-half ounces of milk for each pound of the infant's weight.

— R —

### Acidified Milk in Infant Feeding

HUGH L. DWYER, M. D.

Assistant Professor of Pediatrics

The purpose of this paper is to discuss briefly the differences between the digestibility of breast milk and cows milk in infant feeding, and to review the recent advances in infant feeding with cow's milk mixtures to which certain acids have been added.

When breast milk is taken into the infant's stomach the gastric acid produces a concentration of hydrogen ions in the ingested food at which enzyme action will be most rapid and complete. This concentration is between  $P^H$  6.3 and 2.0.

The three chief gastric enzymes are rennet, lipase and pepsin. Gastric digestion commences at a hydrogen ion concentration of  $P^H$  6.3 when rennin begins to coagulate the casein. Next, lipase becomes active, its optimal activity taking place in a hydrogen ion concentration of  $P^H$  4.5 to 4.0. The gastric lipase splits about 20 per cent of the ingested fat into fatty acid. The third enzyme, pepsin, splits the protein into its smaller components and does not begin to act until the acidity reaches a concentration of  $P^H$  4.0 and does not attain its optimal activity until the concentration is  $P^H$  2.0.

Probably the most important factor in the difficult digestion of cow's milk by infants, is its high content of buffer substances. This buffering property must be neutralized (debuffered) by the hydrochloric acid of the infant's stomach. When the gastric acid is used up for this purpose there is not created in the ingested food a hydrogen ion concentration that is favorable for the optimal activity of the gastric enzymes.

Marriott found that it took three times as much acid to produce the same hydrogen ion concentration in cow's milk as it did in human milk. So it is very evident that it requires at least three times as much gastric acid to bring cow's milk within the range of gastric digestion as it does breast milk. Thus it follows that if cow's milk can be debuffered before it is taken into the stomach the gastric acid is left free to

exert its action in promoting enzyme activity.

The high buffer content of cow's milk was not fully appreciated until Clark showed the striking difference between cow's milk and human milk in his methods of hydrogen ion determination. At the same time he directed attention to the absurdity of adding lime water to cow's milk, which still further increased the difficulties of gastric digestion.

About fifteen years ago Klotz conceived the idea of adding lactic acid to the infant's food. In 1912 Brady of St. Louis reported the use of buttermilk mixtures in the feeding of institutional infants. In 1919 Marriott suggested the use of milk that had undergone natural bacterial souring, lactic acid being formed from the addition of cultures of lactic acid bacteria. Later Marriott began the use of lactic acid additions to sweet milk and popularized the use of lactic acid milk.

Other acids have been used to overcome the buffering property of milk, with seemingly equally good results.

Sheer reported the use of hydrochloric acid additions to cow's milk in the treatment of tetany. Faber reported a series of cases in which he used this acid with excellent results, in digestive disorders and marasmus.

Hess demonstrated that citric acid in the form of lemon juice could be used as a debuffering agent, and advocated its use because it also contained anti-scorbutic vitamin.

Dunham used acetic acid, acidifying the milk by the addition of vinegar and found that the results compared favorably with those of other kinds of acid milk.

Thus there is being used at the present time, bacterially soured milk, and sweet milk mixtures to which have been added one of four acids, lactic, hydrochloric, citric and acetic.

### INDICATIONS

The question arises, should acidified milk be fed routinely to artificially fed infants? Faber believes that it should not. The majority of normal infants do well on simple dilutions of boiled milk and water with carbohydrate added. Faber believes that the adaptive powers of the normal infant are such that it can meet the demands on gastric digestion made by cow's milk. He states that when it is necessary to improve the digestion of cow's milk by adding acid, that no more acid than is really necessary to help the stomach should be used and its use should not be continued over a longer



period than warranted. There is no harm in the hydrochloric acid in amounts advocated by Faber, but the temporary use of the acid is advised in order that the stomach will adapt itself to the demands of the cow's milk and produce more natural hydrochloric acid.

Griswald and Shohl and also Faber believe that because there is active hydrochloric acid secretion in the newborn and because of the alkaline reaction of the colostrum that alkaline milk mixtures are preferable in very early life.

I have used bacterially soured lactic acid milk from birth routinely, in a large infant asylum for the past five years and have not seen any harm from its use in very early life or when continued throughout the first 18 months. Other foods are added, before this time, but all the milk taken is lactic acid milk. At another maternity home where 300 babies a year are put on the bottle at the tenth day. I have used simple mixtures of boiled milk, water and cane sugar and the results are equally as good as those on lactic acid milk. I am inclined to believe therefore, that the normal infant does not need the help of added acid. I can conceive of the benefit that the addition of some acid would have when an infant is taken off the breast and started on cow's milk, when used for a temporary period. But it is probable, as Faber suggests, that the baby can adapt itself to the increased demands of the cow's milk and the acid can be gradually eliminated.

In gastric or intestinal indigestion the use of lactic acid additions are very beneficial. The loose watery stools often become less numerous and change to a hard dry stool containing an excess of soaps.

In marasmus the use of lactic acid has its widest application. I have always made use of the cultured milk for marasmus and diarrhea. The infants food may be given in much greater concentration, thereby getting in more calories, when given as lactic acid milk. I have had no experience with the use of citric and acetic acids, but those who have reported their use have equally good results.

Habitual spitting of the food, abdominal distress and frequent curdy stools in infants on sweet milk mixtures are usually improved by the addition of U.S.P. lactic acid. In this way the taste of the milk is not changed as in the bacterially soured milk and no period of "starving the baby to the bottle" is necessary. It is a common practice and certainly an illogical one to put lime water in the

feeding or to administer alkalies to infants that habitually regurgitate curdled milk.

#### CHOICE OF ACID

Lactic acid is the most widely used at this time. The milk should be boiled five minutes and the scum removed. After it has cooled, the acid is added drop by drop, very slowly and with constant stirring. If a deep vessel and a glass stirring rod is used there is less danger of the acid coagulating the milk. The milk must not be warm and the acid added very slowly or large curds may form. To each pint of milk, 60 drops of the U.S.P. lactic acid are used. The water and carbohydrate are added last. When cultured milk is used it may be used as whole milk or in the presence of a digestive disturbance it is well to have all or part of the cream removed before culturing (Fat free lactic acid milk). The carbohydrate of choice is Karo corn syrup.

Hydrochloric acid as prescribed by Taber is used as tenth normal hydrochloric acid and 25 c.c. is added to each 100 c.c. of milk. Karo syrup, red label is added in the proportion of one ounce to each pint (500 c.c.) of milk. When corn syrup is used in any milk mixture it should first be diluted with an equal volume of water.

Vinegar milk as prescribed by Dunham is used in the proportion of 1 ounce (30 c.c.) of vinegar to each 15 ounces (450 c.c.) of milk. Expressed in terms of their equivalent values for use in the home this equaled 1 common teaspoonful of vinegar to each 3 ounces of milk. At the tenth month of age the vinegar milk is gradually replaced by sweet milk. The amount of vinegar milk given is about 2 1-2 ounces per pound of body weight in 24 hours, for those infants weighing under 14 pounds. It is given undiluted to infants under 2 months. Corn syrup previously diluted with an equal volume of water is added in the proportion of 1 to 1 1-2 ounces of the diluted syrup to each pint of vinegar milk. As with the preparation of other acidified milks, the milk should be boiled and cooled before the syrup is added.

Hess and Matzner add lemon juice in the proportion of 21 c.c. to each quart (1000 c.c.) of milk. To babies under 3 months of age they give a formula of milk 24 ounces, water 12 ounces, cane sugar 1-2 ounce and lemon juice 21 c.c. The lemon juice is first added to the water, and this in turn is added to the milk. When whole milk is used the lemon juice is added drop by drop and the mixture stirred while this is done. They have also used orange juice and tomato juice with

milk, but these fruits do not contain enough citric acid and are not as suitable for increasing the hydrogen ion concentration of the milk.

These observations dispose of the popular prejudice of giving the baby orange juice or other fruit juices and milk, at the same hour. The prevailing custom is to give orange juice at 8 a.m. or safely between the two morning feedings.

#### SUMMARY

1. Cow's milk is more difficult to digest in infancy because of its high content of buffer substances.
2. These buffer substances are neutralized or debuffered by the hydrochloric acid of the stomach.
3. This diverts the gastric acid from its normal function, which is to produce in the ingested food a hydrogen ion concentration that is optimal for the activity of the gastric enzymes.
4. Cows milk can be debuffered by the addition of certain acids, before it is taken into the stomach, and the gastric acid spared to perform its normal function.
5. By the addition of either lactic, hydrochloric, acetic or citric acids cows milk is rendered more digestible, can be fed in greater concentration and thereby is useful in correcting digestive disorders and marasmus.

—B—

#### The Selection of Cases of Pulmonary Tuberculosis for Artificial Pneumothorax

SAM. H. SNIDER, M.D.  
Instructor In Medicine

Although it has been more than thirty years since Forlanini described the treatment of pulmonary tuberculosis by means of artificial pneumothorax, there is still a wide divergence of opinion among chest clinicians as to the proper selection of cases for application of this treatment.

There is one rule which I regard as universally applicable and which I always follow. It is that no patient who is doing well and has fair prospects of continued improvement should be treated with artificial pneumothorax. This form of treatment is tedious and may lead to complications which are not usually serious, but are nevertheless embarrassing. Hence it is not to be undertaken without careful study of the case.

**Unilateral Cases**—The ideal case for pneumothorax is one that has a unilateral lesion. In such a case, with failure to improve after a fair period of proper routine treatment, collapse of the diseased lung

should be instituted and will usually accomplish much toward a cure.

**Moderate Contralateral Involvement**—But involvement of the contralateral lung is not always a contraindication to collapse. If the lung to be collapsed has extensive involvement, shows rales over an extensive area, and is the source of most of the expectoration while the opposite lung shows only moderate involvement, has no cavitation, has few rales and the lesion seems to be improving or stationary, collapse should be undertaken. Cavitation in the contralateral lung is usually regarded as a definite contraindication to collapse.

**Extensive Bilateral Lesions**—But the chest clinician is frequently confronted with a patient having severe symptoms which have not improved with routine care and having extensive lesions in both lungs. In such a case, if one lung is definitely worse than the other and is evidently the source of most of the expectoration and toxemia while the contralateral lung contains no cavities and is only a minor source of toxemia, collapse should be undertaken.

**Desperate Cases**—The use of artificial pneumothorax only for desperate cases with extensive bilateral lesions is not a fair test of the value of the method and any clinician who thus restricts its use is doomed to disappointment in most cases. But I have seen a few such cases make recoveries which were little short of miraculous. So it seems to me that the clinician should not withhold pneumothorax therapy from such a desperate case if he is sure that the lung to be collapsed is the chief source of toxemia and if the opposite lung contains no cavities.

**Cavities**—Many clinicians believe that cavities never heal. My experience has shown me that this belief is incorrect. Small cavities may heal without the aid of pneumothorax or other form of collapse therapy. Larger cavities are less likely to heal and seldom do so unless the lung is collapsed. But with collapse of the lung the prospect for healing of the cavity is greatly improved and the presence of unilateral extensive or moderately extensive cavitation should always cause a careful study to determine the feasibility of artificial pneumothorax.

**Pleural Adhesions**—In many cases extensive pleural adhesions render pneumothorax impossible. If a pleural effusion has progressed to organization and cicatrization, there is little likelihood of obtaining free space in the pleura. Cavities near the pleural surface usually lead to the formation of adhesions and these will hinder



or prevent collapse. The x-ray is of the greatest value in determining the presence of cavitation and the probability of extensive adhesions. Occasionally one is surprised at being able to collapse a lung where careful clinical and x-ray studies had led to the belief that collapse was impossible. So the best method of determining if collapse is possible is to try it.

**Partial Collapse**—Even where some adhesions are present it may be possible to obtain a considerable amount of free space. Partial collapse often has the greatest value and I have seen some most brilliant results in cases where only a moderate degree of collapse could be obtained.

**Hemorrhage**—Artificial pneumothorax is a splendid means of arresting pulmonary hemorrhage in many cases. If the hemorrhage is severe and persistent and it is possible to be sure which lung is the source of the hemorrhage, collapse of the bleeding lung should be instituted if possible. Once begun this collapse should be maintained as in a routine case of pneumothorax unless this measure is contraindicated by the condition of the opposite lung.

It is very difficult to make any set of rules to govern the selection of cases for the problems in selection are many and very diverse. Each case should be carefully studied and the decision to attempt or not to attempt treatment with artificial pneumothorax should be based on the probabilities as to the future of that patient with and without the treatment.

#### SUMMARY

1. Artificial pneumothorax should not be attempted when there is strong probability that the patient will do well without it.
2. The ideal case for collapse therapy is one with unilateral pathology and symptoms which do not recede with proper routine treatment.
3. Moderate contralateral involvement is not a definite contraindication to collapse.
4. Collapse is feasible in spite of extensive contralateral involvement of it can be determined that the lung to be collapsed is the chief source of toxemia and expectoration.
5. In the desperate cases failure is the rule but brilliant results are occasionally obtained in such cases.
6. Partial collapse may be possible despite adhesions.
7. Partial collapse often obtains good results.
8. Artificial pneumothorax is an excellent means of controlling pulmonary hemorrhage in many cases.

## Ocular Disturbance From Exposure to Infra Red and Ultra-Violet Rays

JOSEPH W. MCKEE

Assistant in Ophthalmology

The object of this paper is to give to those of you who are not entirely familiar with the subject, a general idea of the physiological action of the various rays of light and the effect these rays have upon the visual organ. During the past twenty years the environment to which our eyes have been exposed has changed greatly, due to rapid changes in artificial illumination and the use of powerful electrical apparatus in the industrial and medical fields. It is necessary that we as physicians should understand the dangers of this new environment and be able to advise the public in general as to the best methods of protection.

The sensation of visible light is produced by the vibrations of waves of certain lengths in the ether of space. These waves are very minute and are measured from crest to crest by what is known as the Angstrom Unit. This small unit of measurement being one ten millionth part of a millimeter. The waves of various length are manifested to the eye by different colors. Ether waves that measure 7,600 to 6,500 units from crest to crest are manifested to the eye as red light and those that measure 4,200 to 3,900 units are seen as violet light. Between these extreme limits of wave length we find visible light of all colors of the spectrum. The blending together of which in day light produces what is known as white light. Being thus named because it shows all objects in their true colors. For convenience sake we say that the average human eye perceives visible light between 7,600 to 3,900 Angstrom units. Ether waves that measure more than 7,600 up to about 3,000,000 Angstrom units constitute the *infra red* or *heat* rays and those that measure less than 3,900 Angstrom units down to about 500 units are known as the *ultra-violet* rays or *actinic* rays, sometimes spoken of as *abiotic* rays. We have therefore under consideration three main divisions of radiation, manifested respectively as *infra red* or *heat* rays, *visible* or *luminous* ray, and the *ultra-violet* or *chemical* rays. The first and last being invisible. These groups of various wave lengths affect our senses very diversely and are of interest to us chiefly because of their effect on the visual organ.

The *infra red* rays will be considered first because in my opinion they are the least important from our point of view. The

sensitiveness of our eyes and skin to small changes in temperature protect us against undue exposure to these rays because of their thermic action.

Aschkinass in 1895 thoroughly investigated the transmission curve of the human eye for the infra red ray. He found the media of the eye to have practically the same transmission curve as that of a corresponding layer of water and that the outer eye absorbs about 97% of the infra red radiations. Not sufficient radiations reach the retina to cause any injury. This view is substantiated by the findings of Verhoeff and Bell who state that these rays are in the main absorbed by the media of the eye before reaching the retina. They further state that those rays reaching the retina have no specific action analogous to the ultra-violet rays. Any effect due to them is simply a matter of thermic action.

Of all the conditions that may arise from exposure to the infra red rays, cataract has probably received the most attention. The exact causation of cataract has never been determined. It is inferred by many men that because of its common occurrence in glass workers and in tropical people that the heat rays are responsible because the heat or red rays predominate under these conditions. Vogt thinks that the infra red rays are absorbed mostly in the posterior axial portions of the lens and are largely responsible for glass workers' cataract. Verhoeff does not consider this type of cataract as due to any particular radiation but merely to overheating and a disturbance of nutrition. Experimentally no one has yet been able to produce lens opacities from exposure to this group of rays without overheating the eye.

While the title of this paper deals only with the invisible rays of the spectrum yet it is necessary to consider to some extent the luminous rays. I will make no attempt to take up the subject of illumination, or the effect of glare in its relation to eye strain, but I do want to consider briefly the subject of eclipse, or sun blindness, which has in my opinion been definitely proven as due to the rays of the luminous spectrum, and not due to infra red or ultra-violet radiation. Eclipse blindness is the only thermic effect in the retina of common clinical occurrence. Lunsgaard in 1912 reported 143 cases in Denmark, following one eclipse. It is due according to Verhoeff and Bell to the action of concentrated heat on the pigment epithelium and choroid. This heat is due almost entirely to radiations from the visible spectrum within which the maximum solar energy lies.

Birch-Hirschfeld in describing the symptoms and pathology of sun blindness, found that soon after exposure the sufferer notices that objects which are looked at directly are indistinct, veiled or quite invisible, while the rest of the field of view appears as usual. On looking at a dark surface he sees a dark spot surrounded by a shimmer. In mild cases the ophthalmoscope reveals nothing, but in severe cases a pale gray circle fringed with pigment cells is found in place of the yellow spot in the center of the retina. In many cases the sight gradually improves but as a rule it is more or less permanently impaired and total blindness sometimes results. He performed many experiments on animals and showed a progressive lesion of the retina beginning with the superficial layers and consisting of edema, exudation of fluid and atrophy of the nervous tissue due to disturbances of circulation in the retina and choroid. We have therefore definite pathological changes taking place from undue exposure to the sun's rays.

We now consider the short wave length or abiotic rays. Ordinarily spoken of as the ultra-violet radiation. These are by far the most important and most dangerous group. Largely because they are invisible and we are unprotected by nature with any organ or sense for detecting them. It is fortunate that the most harmful of these rays, those having a wave length of about 3,400 Angstrom units and less are almost completely absorbed by a moderate thickness of about any ordinary kind of glass. We can therefore easily guard against them where their existence is known.

These rays are actinic and not thermic in their actions. The histological changes produced are different from those produced by heat. De Rider finds that the ultra-violet rays reduce hemoglobin to methemoglobin. In the retina there is a dissolution of the chromatin. The chromolysis of the internal layers producing vacuoles. Verhoeff and Bell state that the characteristic change is the breaking up of the cytoplasm into eosinophilic and basophilic granules. A great variety of symptoms and lesions may be caused by exposure to these rays. The names given these different ocular disturbances varies according to the causative factor. When they arise from the flash from a short circuit or to the light from the iron carbon arc we give the condition the name of electric ophthalmia. If due to exposure from the reflected light on snow, it is called snow blindness, and if it occurs in the movie studio it is called kleig eyes. The same con-



dition may arise to less extent from reflected light from sand.

The patient may complain of photophobia and lacrimation. There is frequently spasm and edema of the lids. The cornea may become hazy, with opacities, infiltration and ulcers. The iris frequently becomes hyperemic and changes color. The ciliary body is tender to touch. The disc may be hyperemic and later develops a temporal pallor. The retina frequently develops scotoma especially central with whitish spots in the macular region. Chorio-retinal changes are not uncommon.

As we see these patients in the acute stage, they are most uncomfortable but undoubtedly in a large percentage of the cases there is no permanent injury. It is still a debatable question as to how much permanent damage is done to the retinal tissues. Verhoeff and Bell discount the theory that the retina is affected even by very intense exposure to the ultra-violet radiations. "Even exposures severe enough to cause destruction of corneal epithelium is, according to their researches, not sufficient to injure the retina. The scotomas that follow such exposure soon disappear. Even the aphakic eye is sufficiently protected by the cornea and vitreous to withstand any ordinary illumination even without the glasses that these people wear." They further state that practically all ultra-violet radiations are absorbed in the outer eye. Even with great exposures the lens substance is affected to a depth of less than 20 microns (1-1250 inch) and this superficial effect undergoes on the rabbit a complete repair. The retinal lesions that sometimes follow these exposures are definite thermic lesions and are not due to the ultra-violet radiations.

The electric arc between carbon and iron that is used in arc welding operations is one of the most prolific generators of these harmful rays. It not only throws off powerful ultra-violet radiations but also intense heat rays. The operators must therefore not only protect themselves from the ultra-violet radiations but from the luminous rays and the intense heat rays at the other end of the spectrum. They must not only protect their face and neck from the direct radiations but their eyes must be protected from the reflection of invisible rays from the walls. For this reason arc welding should not be carried on in an open shop or even behind screens closed only at the sides. The reflection of the vivid and flickering flashes from the walls may easily affect the eyes of other operators who are not engaged

in welding and are therefore unprovided with any protecting device.

These patients after being exposed to a severe flash, first complain of blurred central vision followed a few hours later by lacrimation, photophobia and severe extra ocular manifestations. The blurred vision in my opinion must come from the exposure to the luminous rays and the extra ocular manifestations that later take place are due to the abiotic radiations. The period of latency varies inversely with the severity of the exposure.

There are probably as many writers who think that the actinic rays as well as the infra red rays are a causative factor in cataract formation. Both forms of radiation probably are a contributory factor. Not in a direct action on the lens however but only as they disturb the nutrition from the ciliary body. Doland has shown us that cataracts are quite common amongst the Eskimos in the polar regions, so we cannot say that there is any particular geographical distribution for this condition. There have been many attempts to produce the senile type of cataract experimentally. This has never been accomplished. However there have been a number of experimenters who have produced various types of opacities by exposure to the ultra-violet radiations. Arnold Ginella last year in experimenting on rabbits with ultra-violet light to which some red rays had been added, produced different degrees of injury from circumscribed opacities, to total cataract. He was not able to produce these opacities by exposing enucleated fresh eyes. The lenticular changes thus caused were largely in the anterior segment of the lens. Van Der Hoeve thinks that such opacities are due to injury to the epithelium of the ciliary process. It takes very little injury to the epithelium to cause nutritional disturbance to the lens.

Schanz puts forward the very interesting theory that presbyopia as well as cataract is caused by the ultra-violet radiations. He believes that the cumulative action of these rays over a long period of time causes a hardening of the nucleus of the lens. If this is true, people who have worn glasses all their lives should not become presbyopic as soon as others because we have shown that ordinary spectacle glass excludes many of the harmful actinic rays.

From a therapeutic point of view the abiotic rays possess very little value as far as direct destruction of bacteria is concerned. Verhoeff and Bell state that abiotic radiations that are able to penetrate the tissues are more destructive to tissue than to the bacteria.

Now that we have considered to a certain extent the properties of the various rays, what precautions should we take to protect ourselves. Verhoeff and Bell make a broad statement that no artificial sources of light for illumination purposes contain enough ultra-violet radiations to involve the slightest danger to the eye from its effect under any readily conceivable conditions of use. Luckeish finds that the ultra-violet radiations of the tungsten lamp is less than that of day light. Even when the photometric intensity of the tungsten is ten times greater. I think then we are safe in saying that for any ordinary use we need no protection. However those people who are exposed to abnormal radiations such as furnace glare, flashes from iron carbon arc, the quartz lamp, reflections from snow and even from white sand should have protection. The committee of the A. M. A. on Hygiene of the Eye recommend a combination of Novial A. and Corning 124 A. This absorbs all ultra-violet and most of the infra red rays and still has a high visible transmission and is efficient for eye protection. Smoke, amethyst, blue or purple are poor absorbers of ultra-violet and are little better than clear glass. For a more comprehensive study of the protection qualities of the various colored lenses, I shall refer you to the works of Coblentz and Emerson (Technologic Papers Bureau of Standards Number 93.) This paper gives us in detail the absorption of different makes and colors of glasses. They are grouped in two classes.

1. Those that protect from the violet as black, amber, green, greenish yellow and red glasses.

2. Those that protect from the infra red as black, yellowish green, sage green, gold plated, and bluish green.

In this general review of some of the more important literature on this subject, I have come to the following conclusions:

1. The eyes require no protection for radiations from any ordinary illuminant.

2. Practically all infra red and ultra-violet radiations are absorbed in the outer eye.

3. Retinal disturbance is due almost entirely to the heat from the luminous rays of the spectrum.

4. Infra red and ultra-violet radiations are the causative factor in cataract only in so far as they injure the ciliary body and cause a nutritional disturbance to the lens.

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#### R

### Some Factors Other Than Specific Drugs in the Treatment of Neurosyphilis

A. L. SKOOG, M. D.

Professor of Neuropsychiatry

Possibly an apology might be due our readers for a consideration of any phase of syphilis about which subject there now exists an enormous amount of scientific literature. However, the importance of the subject is recognized everywhere. Some of the therapeutic measures given a place in this article are discussed infrequently. Probably their importance is neglected or buried under the numerous routine systems forced upon our attention.

The frequency and importance of the implication of the central nervous system in late stages of syphilis, has been recognized by the majority of physicians for many years. This has not been true for the earliest stages. Proper recognition of a very early involvement of the central nervous system is being developed rapidly. We know now that something better than 60 per cent of all the patients infected with *treponema pallidum*, sooner or later within one year, have an involvement of the central nervous system which can be detected clinically or by laboratory methods, or both. In most cases the earliest pathologic changes occur in the blood vessels or the perivascular spaces, and the leptomeninges of the encephalon and spinal cord. Evidence of parenchymatous alteration usually appears later, but it may be present almost simultaneously with the first two groups of tissues named.

As a preliminary we might admonish that full credit is given to the great value of some of the specific chemicals such as the mercurials, the iodides, and the arsenicals. Possibly we might include some of the bismuth preparations which have come into



vogue during the last few years. For several centuries mercury was the agent relied upon chiefly to combat syphilis. It may have been neglected a little during recent years on account of the attraction of the medical profession towards the arsenicals. With any of the metallic chemicals or salts of mercury, iodine, arsenic or bismuth, as a rule, it is preferable to give a course of one at a time. Thus if a tolerance by the syphilitic organism to the drug is established, resort to one of the others may be considered. Again we can watch for the earliest evidence of saturation or toxic manifestations more readily where only one preparation is being used.

The greater the chronological period following the earliest manifestation of the chancre, the less favorable becomes the outlook. In other words, the greatest possible prognostic optimism declines with the age of the disease. However, this becomes less marked today compared with ten or twenty years ago, on account of the improved methods in treating tertiary syphilis of the central nervous system and the various metaluetic types. The question may be asked as to why the later manifestations yield less readily to specific treatment. There may be other reasons, but it is desired to call your attention to two. (1) Undoubtedly a tolerance by the *treponema pallidum* to some of the chemicals is produced in many patients. It is believed that this is more likely to happen where long periods of the same treatment are conducted with the smaller doses. (2) Again the spirochetes may become lodged among either the parenchymatous tissues of the brain and spinal cord, or their mesoblastic elements. By a slow pathologic process they may become enveloped in a cicatricial barricade, and gradually prevent the possibility of access of the sterilizing chemicals. After some months or years of quiescence, and with a reduction of the naturally established immunity, the syphilitic organisms again may thrive and become disseminated.

Probably every patient with syphilis should have, at a very early stage, friendly advice and be apprized of some of the important details regarding the prognosis. Then he can be instructed relative to the best course for his work, recreation, and general hygiene. It is believed that many of the serious or fatal involvements of the central nervous system might have been long delayed or avoided had the patient taken better general care of himself.

By proper hygienic attention of the patient to himself, the opportunity for the establishment of the greatest degree of natural

immunity will be increased. Undoubtedly there is waged a vigorous battle within the body itself to combat the *treponema pallidum* and its toxins. Just what the *modus operandi* for this immunity might be, has not been determined fully. This problem has not attracted investigators in a manner compared with the forcible and numerous researches for a specific treatment. But it is a factor that should be considered seriously when treating syphilis, especially neurosyphilis in the later stages.

Perhaps at this point it might not be out of place to cite briefly three illustrative cases.

Case M. X.—This case has been followed closely for a period of eight years. The patient was fifteen years old when first observed. She had been ill for a period of about two years, suffering from cerebral manifestations which in some ways resembled epilepsy and in others hysteria. She had very few obscure clinical signs suggesting syphilis. Several complete spinal fluid and blood analyses gave positive indications of syphilis which undoubtedly was congenital. During a period of four years, courses of treatment included neosarsphenamine, iodides, mercury and spinal fluid drainage, together with a careful hygienic regime and whatever symptomatic treatment might be indicated, were put into execution quite effectively. An apparently good recovery occurred. A number of serological tests on blood and spinal fluid also have given negative findings for syphilis during the past four years. Now the patient has been married about a year and a half, and not long ago gave birth to a normal healthy baby.

Here we have an interesting family history. The father and mother were made thoroughly familiar with the disease. The mother is of the neurotic type, but all her tests for syphilis have given negative results. The father's blood gave a four plus positive Wassermann on two occasions. He always has had perfect health, and presented no clinical evidences of syphilis. He never has had any specific treatment. One younger brother was negative for syphilis. Another younger brother had congenital syphilis, and died from a streptococcus meningitis two years ago. The mother had one abortion before the birth of this patient.

To summarize we can say that we have a case of congenital neurosyphilis now apparently restored. Most likely the father was responsible for her disease, but had no knowledge of his own positive serology until this patient was investigated. Furthermore there is no clinical evidence of

paternal syphilis. The father's health has been excellent, and required no treatment of any kind. We may conclude that he had established a natural immunity.

Case L.Y.—This patient was first observed fifteen years ago when forty-nine years old. Twenty-one years ago, she began to suffer with pains in the back increasing in severity for a number of years. Each period of distress would last from a few weeks to two or three months. The pains radiated to the abdomen and lower extremities, but were not quite typical for the lightning pains of tabes. She had a marked irregularity of the pupils which were not responsive to light. The fundus showed evidence of syphilis. Both blood and spinal fluid findings were positive for lues. She has had treatment with neoarsphenamine. Much symptomatic therapy has been prescribed. Some improvement has been established but she continues to remain a semi-invalid. She is suffering from an unusual type of metalues involving especially the spinal cord and leptomeninges.

The patient has three healthy children and none dead. She had one abortion at the age of thirty-nine. The husband has no clinical evidence of syphilis and two blood Wassermanns were negative. His past mode of living would lead one to suspect that he had syphilis at one time, and infected his wife. A spontaneous recovery may have occurred without any specific treatment. It is believed that a natural immunity was developed in him.

Case K. Z.—This patient was forty-six years old at the time of her death in 1915. She was first seen in 1914. She had been suffering from meningovascular syphilis involving especially the brain for about five years. The motor, sensory and coordinating systems were severely involved with the clinical manifestations. The auditory and optic nerves were implicated. Complete spinal fluid and blood serological tests were positive for syphilis. She did not respond to mercurial, iodide nor neoarsphenamine treatments.

She has four healthy living children. Two are said to have died from pneumonia and tuberculosis. We might question at least one of these diagnoses. Three abortions occurred from the third to the fourth month of the pregnancy. The blood of the husband was positive for syphilis. He also had been an alcoholic for many years. Despite this history, his health was fairly good and there were no clinical evidences of syphilis. He also denied any initial chancre. He refused a spinal fluid test and to consider any

treatment. We believe this man infected his wife after the birth of four healthy children; that natural immunity was established and came to his defense. He has been seen during the past year, and seems to be in a fair state of health.

The short discussion of the above three cases is not to call your attention to the neurosyphilis in the women which is incidental as far as our theme goes; but to illustrate the possibility of a natural immunity in the three men most likely responsible for the syphilitic infection of a daughter and two wives in each instance. The possibility of some later serious neurosyphilitic disease in the men is not overlooked. They have been observed now over a period of 8 to 15 years. The barrier developed by some immune bodies seems to have been adequate during these many years to defend all their tissues from the attack of the spirochetes.

Of all the aids to drug therapy in combating neurosyphilis, first place may be given to rest. Ever bear in mind that there is a continuous battle on the part of the tissues themselves in the endeavor to eradicate the disease, or keep it at a point where it will do no material damage to the patient. If the physician has a fractured humerus or an acute or chronic inflammatory disease of the bone to treat, he considers it highly important and proper to put this member in a splint or state of rest. This means the prevention of active as well as passive movements. Now if the brain or spinal cord and its leptomeninges are involved in an inflammatory process such as syphilis whether it be of the secondary, tertiary, or one of the metaluetic types, we should utilize rest in the treatment, as far as it is practical. We admit that you cannot put the central nervous system up in a cast such as is done with a long bone. But we can reduce work to a minimum where it is required, and in almost every case advise means whereby katabolism of nerve cells and fibers be diminished materially.

A Weir-Mitchell course of treatment, or more frequently some modification which will fit the individual case, especially for some types of late neurosyphilis, is used. Such a course of treatment may be utilized alone or in conjunction with a course of mercury, neoarsphenamine, or iodides. Rest and isolation from all cares attendant on active life is the chief feature of this treatment. Any necessary medication is not omitted. Hydrotherapy, massage and physiotherapy in general form a part of the course.

In some cases it may be necessary to regulate or alter the social habits. A change



of occupation can be advised advantageously for some patients. Possibly the number of hours of labor should be reduced. He may find some employment where less annoyance and mental fatigue attend the duties.

Various vicious habits should be regulated. A careful, abstemious mode of living works advantageously. Sexual excitement and excesses certainly should be avoided. Interdict the use of all alcoholic beverages. Tobacco in any form might be prohibited in many instances and frequently reduced. The diet may be changed for some patients. This is individual. Many patients with neurosyphilis are undernourished, and this state requires some particular attention. Avoid articles that tend to produce gastrointestinal intoxication and indigestion.

During intervals between courses of specific treatment, it may be valuable to resort to various tonics including tincture nux vomica or its alkaloid strychnia, phosphates, iron, manganese and other drugs. The use of different laxatives which may be indicated, is an individual matter.

Hydrotherapy is advocated by some physicians. Certainly it has a place in the treatment of neurosyphilis although it has been overestimated by some enthusiasts in the past. Where it is not convenient or the patient can not take the treatment on account of expense, a prolonged hot bath daily or every other day, may prove efficacious. Electrical treatment and diathermy might be used in conjunction with the hydrotherapy or separately for some patients, but more frequently for neural and muscular complications.

Massage and various mechanical therapeutic measures are indicated for certain kinds of neurosyphilis, but in particular for many of the complications and symptoms such as the various paralyses. Some accompanying gastrointestinal disturbances and especially constipation can be relieved in a wonderful manner by these measures.

Psychotherapy in the broad sense or proper suggestive therapeutics, has a place in the treatment of syphilis of the central nervous system. Without a doubt worry and mental irritation impair the prognosis. It may be responsible for some of the more serious psychic disorders in connection with neurosyphilis. It is interesting to note that paresis and syphilitic psychoses occur more frequently among highly civilized nations and strenuous mental workers. Certainly they are found much less frequently among the negroes and lower classes.

#### CONCLUDING REMARKS

1. The great value of mercury, iodides, and arsenicals for the treatment of neurosyphilis, keeping in mind a past history covering more than three centuries, the present accomplishments and a possibly more promising future, is not underestimated; but many other things outside of drugs should be seriously considered especially for metasymphilitic cases.

2. Never lose sight of the fact that we have a host to care for, as well as foreign microorganisms to combat.

3. Rest, particularly as relates to the brain and spinal cord, never should be neglected.

4. During the early period of neurosyphilis, we should ever bear in mind that the patient has a battle before him that will cover many years as a rule. Thus he should be fortified in every way possible during the early period, as well as later.

—R—

#### Aortic Regurgitation in Young Adults

ROBERT C. DAVIS, M.D.

Assistant Professor of Medicine\*

The impression that aortic insufficiency is always luetic is so general and widespread that many physicians have the idea that once a diagnosis of aortic insufficiency is made there is no question about the cause of the lesion.

However, if one carefully investigates the causes of aortic valvular disease, one finds that most of the cases fall into three classes. First, those occurring in young adults following rheumatic fever, tonsillitis, influenza, etc., in other words, infectious endocarditis. This does not necessarily mean that a case in a young adult may not be luetic. However, the majority are infectious.

Second, those cases occurring from thirty-five to fifty years of age following luetic infections.

Third, those occurring after the age of fifty or fifty-five, in which there are arteriosclerotic changes in the aortic valves and in the aortic arch.

It is important that the cause be determined in every case of aortic insufficiency because of the value in prognosis.

The insufficiency due to luetic infections is much more serious than those due to rheumatic infection and arteriosclerosis. The average length of life in aortic insufficiency due to syphilis is much shorter than in the non-specific.

Below is a summary of the case histories

\* Cases 5, 6, and 7 taken from Diagnostic Department, Research Hospital.

of seven cases of non-luetic aortic insufficiency.

Case 1.—I. Z., twenty-three years of age. Patient first seen the seventeenth day of June, 1922. His chief complaint is shortness of breath on exertion. Patient gives a history that following inflammatory rheumatism six years ago he has been definitely short of breath upon exertion. He has never been able to engage in athletics as other boys since that time. Had inflammatory rheumatism, with swelling, tenderness and redness of the joints of his hands, wrists, shoulders and knees, which persisted for about four weeks. At that time he was told that he had a heart condition, and was kept in bed for some time following the subsiding of his joint infection. Was definitely short of breath following the rheumatism and has been more or less short of breath on exertion since that time.

There are at the present time changes in some of the joints due to this old infection. He has a little pain in the right epigastrium, which he thinks is associated with gas and overeating.

Examination of patient shows pupils equal, regular, and react to light.

Teeth in fairly good shape. Tonsils difficult to see, because it is difficult for patient to open his mouth on account of old arthritic changes in his temporomaxillary articulation. Marked pulsation of the vessels of the neck.

Chest musculature fairly well developed. Expansion only fairly good. Lungs are negative to percussion. No change in the voice or breath sounds. Normal respiratory murmurs. No rales.

Heart: Apex impulse sixth interspace outside the mid-clavicular line. Apex impulse diffuse and heaving in character. Right border outside the right border of the sternum. Rate regular. No murmurs at apex. No thrills. Sounds at base clear. Second sound replaced by a diastolic murmur, which is transmitted down the sternum. Pistol shot in the femorals and brachials. Typical water hammer pulse.

Blood Pressure: 140/40.

Abdomen negative except for a little tenderness in right upper quadrant.

Blood: Hemoglobin 85%, R. B. C. 4,200,000; W. B. C. 5,500. Wassermann: Negative.

Other examinations negative. No electrocardiogram or 2 meter negatives were obtained.

Case 2.—A. F., twenty years of age. Patient first examined January 13, 1923. His chief complaint is pain in the epigastrium. Patient gives a history of rheumatism

eight years ago. The rheumatism at that time was not very marked and did not persist for very long. He was sick in bed for about one week, and up and around for about ten days or two weeks, with some pain in his shoulders. Does not remember that he was definitely short of breath, and has very little shortness of breath at the present time. Patient complains of an indefinite sort of pain in the epigastrium. Discomfort in the epigastrium not accompanied by eating—as patient describes it, just a dull, heavy feeling. No heart burn. No nausea. No vomiting. Notices that the pain in the epigastrium is worse in the evening or at night after a hard days work. No other history of consequence.

Physical Examination: Pupils regular, react to light. Teeth in very poor shape.

Tonsils are hypertrophied, cryptic and pus in both. There is a marked pulsation of the vessels of the neck. Both tonsils and the sides of the pharynx pulsate with each cardiac impulse.

Chest musculature fairly well developed. Expansion good and equal. No evidence of wasting, rigidity or spasticity of the muscles. Lungs negative to percussion. No change in the voice or breath sounds. Normal respiratory murmur. A few sub-crepitant rales scattered throughout bases of both lungs.

The heart is greatly enlarged to the left and downward. Apex impulse sixth interspace, an inch outside the midclavicular line. Apex impulse diffuse and heaving in character. Sounds at apex clear and distinct. No murmurs. No thrills. A to and fro murmur heard at the base, with a rather marked prolongation of the diastolic murmur transmitted down the sternum and toward the apex. There is capillary pulse. Corrigan pulse, pistol shot in the femoral and brachial arteries.

Blood Pressure: 130/0.

Abdominal musculature well developed and fairly well relaxed. No masses. Rather marked rigidity over the upper abdomen. Unable to definitely feel the liver due to rigidity, but very marked tenderness over the liver area.

Blood: Hemoglobin, 75%; R. B. C., 3,800,000; W. B. C., 11,000. Wassermann: Negative.

No electrocardiogram or 2 meter negative obtained.

Case 3.—H. M., twenty-one years of age. Patient first seen March 2, 1926. He complains of pain in the left side upon walking. He has noticed for the past year pain over the precordium upon exertion. After walking about two miles, notices that the pain



in the chest would be so severe that he would have to stop and rest for awhile—then he would be able to continue. Has never had shortness of breath. No pain in the left arm, shoulder or neck. Patient has always been very active in athletics. He has engaged in ski tournaments and bicycle tournaments. History referable to gastrointestinal tract negative. No other complaints.

Patient has never had rheumatism or infectious diseases, except chorea at the age of sixteen, which was five years ago. At that time he was sick for about one year. He doesn't remember that he had any shortness of breath at that time. His history is very indefinite concerning chorea. He does give a history of having had some swelling of his hands and feet at that time.

Physical examination shows a young man, weight 152 lbs., well nourished and not sick. Pupils equal, react to light. Teeth in good condition. Adenopathy and thyroid negative. There is quite a marked pulsation of the vessels of the neck. Blood Pressure: 132/0. Lung examination is negative.

Heart borders greatly enlarged both to right and left. Apex impulse 6th interspace,  $1\frac{1}{2}$  inches outside the midclavicular line. Right border one inch outside right border

type, capillary pulsation present and pistol shot sign over femoral arteries. Other examinations negative.

Blood: Hemoglobin, 90%; R. B. C., 5,500,000. Urine: Negative. Two-meter negative of heart shows the heart greatly enlarged outward and downward, with a marked enlargement to the right of the midsternal line. Cardiac index 63.4.

Case 4.—R. H. D., referred to me by Dr. J. W. McKee, August 21, 1922. Patient complains of pain in the right shoulder and of stomach trouble. He has had pain in the right shoulder for about six or seven months. His pain is worse at nights. Pain relieved by aspirin and heat. The stomach trouble is of three or four weeks duration and comes on immediately after eating. Pain is sometimes relieved by soda, sometimes not. Belches a great deal of gas, which he thinks sometimes relieves the pain. Appetite good. No nausea, no vomiting. He complains of tenderness in the right upper abdomen. Has marked dyspnoea on slight exertion. No swelling of hands, face or feet. Has precordial pain at times but no pain referred down the arm. Cannot sleep on back or left side. Has never had to sit up at night to get his breath, but occasionally has to change his position for relief of pain. Has had severe backache and up under shoulder, but history is not that of gall bladder or renal colic.

Physical Examination: Pupils equal, regular and react to light. Blood Pressure: 130/0 on the right side. On the left side 74/20. He has a Corrigan pulse. Pulsation of the vessels of the neck is quite marked—more on the right than the left. Capillary pulse present. Chest is of the long narrow type. Muscles fairly well developed. Expansion good. No evidence of wasting, rigidity or spasticity of the muscles. No change in voice or breath sounds. No rales.

Heart: Apex impulse is at the seventh interspace outside the nipple line. The aorta is broadened. Apex impulse is heaving in character. There is a systolic and diastolic murmur heard over the entire precordium, loudest over the aortic area, transmitted to neck and down borders of the sternum. Pistol shot sign in the brachial and femoral arteries. Muscles of the abdomen are well developed. Some rigidity in the epigastrium, with marked tenderness in this area. No masses. Blood: Hemoglobin, 90%; R. B. C., 4,490,000; W. B. C., 8,400. Wassermann: Negative. Stomach analysis negative. X-ray Report: Examination of negatives of teeth shows one small apical abscess. Examination of a 2 meter negative shows a cardiac index of 60.

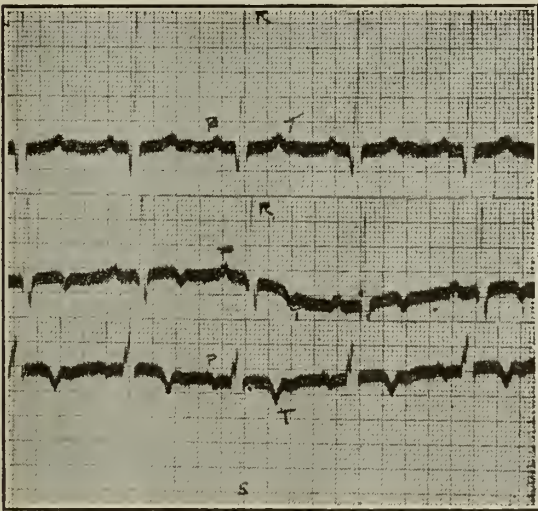


Figure 1. Electrocardiogram H. M. Tracing shows left ventricular predominance. Auricular ventricular conduction prolonged, .24 sec. Increased duration Q. R. S.  $T_2$  and  $T_3$  negative.

of sternum. Apex impulse rather heaving in character. Heart rate slow and regular. A slight systolic murmur at apex which is not transmitted. At base first sound of heart present followed by a soft blowing diastolic murmur, which is transmitted down right side of sternum. Pulse: Corrigan in

X-ray shows an enlargement of the left ventricle and the outline and contours of the heart and the characteristic pulsation lead us to feel that this is an aortic regurgitation.

Gastrointestinal examination is negative for any pathology, with the exception of some spastic changes throughout the right colon.

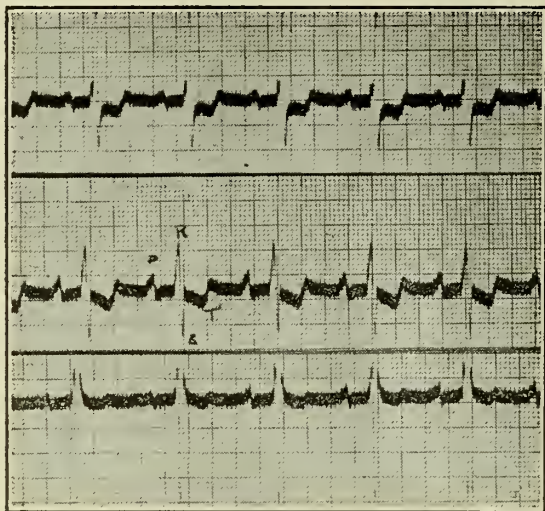


Fig. 2. Electrocardiogram R. H. D. P. R. interval .24 sec. (Normal .1-.2 sec.) Slurring Q. R. S. II. Increased duration Q. R. S. all leads. T waves negative due to digitalis. Shows rather marked left ventricular predominance.

Note: This patient quit digitalis in March and two weeks later had an acute cardiac failure. Patient became delirious and developed marked swelling of hands, feet and abdomen. Then he was again given digitalis and at present is again at work and fairly comfortable.

Case 5.—L. G., 31 years of age, examined January 19, 1926. Tonsils removed two years ago. Appendix was removed in 1917. He denies all acute infections, with the exception of tonsillitis and rheumatic fever. The patient complains of shortness of breath and cough. Has had shortness of breath for years. Has had an attack of bronchitis the past few days. Has had three attacks of bronchitis since August. Is losing weight. Has lost 20 lbs. in the last three years. He had done considerable athletics and was not especially short of breath. At present he gets short of breath on walking. Some palpitation of heart, but no swelling of the hands, face or feet. A little precordial pain. No pain referred down the left arm. No constipation. No attacks of acute indigestion. No vomiting. Some soreness in his abdomen when first awakening. Eats everything. In 1917 he was diagnosed gastric

ulcer. No nocturia. No pain or burning on urination. Sleeps fairly well, but is rather restless. His usual weight is 150 to 155 lbs. Present weight 135 lbs. Slight loss of strength. Blood Pressure: 110/50. Pulse 76. Temperature 97.6. Pupils equal and react to light, regular. Teeth: Several crowns and fillings. Lung examination negative. Heart is not enlarged. Apex impulse 5th interspace, midclavicular line. There is a diastolic murmur at the apex which is increased by exercise. No thrills. Sounds at apex are clear and distinct. Sounds at base clear and distinct. First sound is present. Second sound is replaced by a loud diastolic murmur quite marked in the dorsal position, which is transmitted down the sternum. Patient has capillary pulse and a suggestive Corrigan pulse. Urine is negative. Blood: Hemoglobin, 84%; R. B. C., 4,360,000; W. B. C., 9,000. Wassermann: Negative. Blood chemistry within normal limits.

X-ray Report: Teeth negative except for one dead tooth.

Examination of the 2-meter negative shows the heart of the elongated type with some enlargement of the left ventricle and a smooth definite outline of the left border that is very straight. There are a few small

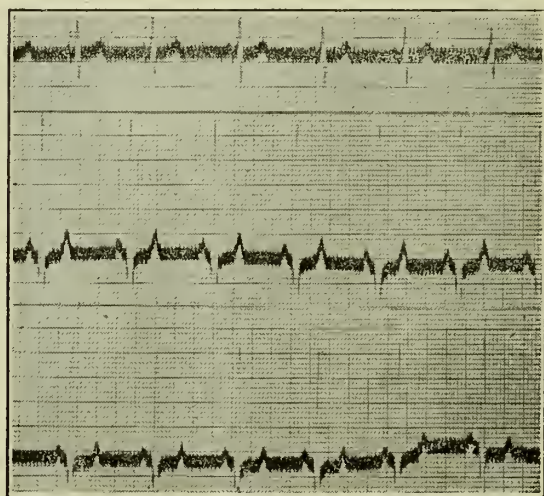


Fig. 3. Electrocardiogram of L. G. Shows very little change.

calcific deposits at the hilum of the right lung and the diaphragm is even, smooth and regular.

Examination of the negatives of the gastrointestinal tract shows the stomach of normal size, shape and position with good peristalsis and good motility. Fluoroscopically, the cap of the duodenum was well demonstrated, smooth and regular in outline. There is no evidence of any intrinsic or ex-



trinsic filling defects in the walls of the stomach or the cap of the duodenum.

At the 24 hr. interval the entire colon is outlined. There is marked irregularity of the colon and evidence of spastic changes throughout. The ophthalmologist report is negative. The oto-rhino-laryngologist reports polypoid degeneration of the middle turbinate. He also reports that the patient has accessory sinus disease on the left side.

Case 6.—D. E., twenty-two years of age, examined June 10, 1925. He has had no serious injuries. He has had repeated attacks of tonsillitis, had rheumatic fever at the ages of 13 and 17, and has rheumatism at present. The patient complains of pain in feet, back, neck, knees and elbows. He states that two months ago he had pain in his feet. At that time the pain was worse when he was on his feet. He feels stiff in the morning and there is soreness in his joints. Since the first attack two months ago he has had pain involving the back of the neck, the knees and the elbows. As stated he gives a history of rheumatism at the age of 13, at which time the condition lasted three months. He had chorea as a child, which also lasted three months. His next attack of rheumatism was at the age of 17, his trouble at this time lasted five months. He has noticed no shortness of breath following this. He has done competitive athletics since his last attack. Lately he has noticed some throbbing of the neck and head. No shortness of breath. Other history negative.

His usual weight is 160 lbs., his present weight 160 lbs. Blood Pressure: 126/0. Pupils are equal, regular and react to light. Lung examination negative.

Heart: Apex impulse is in the 6th interspace outside the nipple line. The heart is enlarged downward and outward. There is marked pulsation of the vessels of the neck, more on the right than left. He has a Corrigan pulse. Heart rate is slow. He has a diastolic murmur at the apex. The first sound at the apex is loud and prolonged. At the base there is a diastolic murmur heard over the aortic area and transmitted down the left border of the sternum to the apex. There is slight accentuation of the sounds over the femoral arteries—however, they are not a true pistol shot sign. He has capillary and Corrigan pulse. Urine is negative.

Blood: Hemoglobin, 90%; R. B. C., 4,510,000; W. B. C., 6,800. Wassermann: Negative.

X-ray Report: Examination of negatives of the teeth shows areas of rarification around the roots of both upper right bicuspids. The lower right second bicuspid is

a dead tooth with a root canal filling and evidence of pericementitis.

Examination of a 2-meter negative shows enlargement of the heart, particularly of the left ventricle, with no increase of the transverse aortic shadow. There is considerable thickening at the hilus of each lung and an increase in the interstitial tissues throughout both lung fields, that is slightly fibrotic in character and has the appearance due to compensatory efforts.

Examination of the accessory sinuses, taken in three positions, shows good development of all the sinuses and good aeration of the frontal, ethmoid and sphenoid. There is a slight increase in density over the left antrum and fairly marked density over the right antrum.

Examination of the gastrointestinal tract shows marked spastic changes throughout the entire colon. The ophthalmologist reports ophthalmoscopic examination negative. The oto-rhino-laryngologist reports a small piece of tonsil on the right side.

Case 7.—H. H., twenty-one years of age, examined June 2, 1925. His tonsils were removed in 1912 and he was re-operated for the same condition in 1919. He has had a few attacks of tonsillitis. Had influenza in 1919, and again in March of this year. He states that in 1918 he had heart trouble. At this time he was in bed for six months and had fever for three months. The patient comes in for examination. Following an attack of "flu" in March of this year has fever up to the present time. At the time of the "flu" he was in bed for two weeks. Had fever, generalized aching pains. He has no cough. He has lost 10 lbs. since March and feels weak. Some palpitation of the heart. Dyspnea on exertion. No swelling of the face, hands or feet. Has not expectorated blood. Does not have night sweats. His appetite is fair. Has some belching of gas. No pains in the stomach. No heart burn. No nocturia. No nausea or vomiting. Bowels are constipated. No pain or burning on urination. He has been nervous since March. Is not depressed. At times is irritable. His normal weight is 125 lbs., present weight 117 lbs.

Blood Pressure: 150/30. Anterior cervical glands are enlarged. Lung examination negative.

The apex impulse is in the sixth interspace outside the nipple line. There is a double murmur at the apex. The presystolic is crescendo in type. Also a presystolic thrill, crescendo in type which ends in a systolic shock, at the apex. There is a double murmur at the base transmitted down the right border of the sternum and into the

vessels of the neck. He has the pistol shot sign, Corrigan pulse and capillary pulsation. Urine is negative.

Blood: Hemoglobin, 74%; R. B. C., 4,450,000; W. B. C., 12,000. Wassermann: Negative. Blood culture sterile.

X-ray of teeth shows both lower right bicuspids are dead teeth with root canal fillings and apical abscesses at their roots. Examination of a 2-meter negative shows a cardiac index of 52.

The laryngologist reports a large piece of tonsil remaining on the right side, and a small piece on the left side.

#### SUMMARY

Seven cases of aortic insufficiency are reported, none of which are caused by luetic infection.

Three electrocardiograms are reported, one of which shows very little change. There is a prolonged P. R. interval in the other two. This is fairly common in advanced cases of aortic insufficiency. Two show left ventricular predominance.

In case 3, there is definite myocardial change as evidenced by the inversion of the T waves in leads II and III.

In case 4, the changes in the T waves are due to digitalis. This patient has recently suffered an acute heart failure, but with rest and digitalis his heart muscle soon regained its tone. This is a common occurrence in insufficiency of this type.

Our experience is that non luetic endocarditis is the most frequent cause of aortic insufficiency in young adults.

—R—

### The Relation of Nasal Disease to Bronchial Asthma

LOGAN CLENDENING, M.D.

Associate Professor of Medicine

The relation of nasal disease to bronchial asthma has recently been the subject of considerable discussion. Kahn<sup>1</sup> has reviewed a series of cases in which nasal operations were without beneficial effect on the asthma. Gottlieb<sup>2</sup> has reported his experience on the theory that nasal disease may cause asthma in one of four conceivable ways; (1) direct infection, (2) allergic response of the bronchial musculature to bacterial proteins in the nose, (3) the result of lowered resistance in the bronchi from nasal obstruction, and (4) reflex action. The cases reported by Gottlieb did not convincingly prove any of these theses and Lintz<sup>3</sup> has expressed himself in rebuttal as feeling that the only conclusion warranted by Gottlieb's report is that "intranasal opera-

tion as a cure for bronchial asthma is futile." The confusion which this state of affairs seems to imply is not necessary or irreconcilable. There is a relation between nasal disease and asthma, and nasal operations are not futile in the condition although no writer has pointed out the clear cut chain of events which does bind the conditions together.

The usual explanation of the origin of asthma from nasal disease is that it is reflex. The acceptance of this theory is, however, attended with difficulties which rhinologists have not heretofore faced frankly. In the first place a reflex arc between the nose and the bronchi can be made out only by hypothecating the most circuitous detour. The stimulation is supposed to originate in the splenopalatine ganglion, to be carried for a short way in the vidian nerve, then through the deep petrosal nerve to the cavernous plexus, then to the high cervical ganglion.

Not only is this arc far from direct anatomically, but on the physiological side, stimulation or faradization of the nasal mucosa does not with any regularity produce asthma. I say "with any regularity" simply as a concession to those experimenters who have reported the production of asthma by nasal stimulation; if I consulted my own experience I would be willing to say it never results in asthma. In the second place, Auer and Lewis found that section of the vagus did not prevent anaphylactic asthma in guinea pigs; this is a fact which is constantly overlooked by writers who relate asthma to the vegetative nervous system. Lastly a difficulty which the reflex school does not explain is that with the removal of the nasal disease the asthma does not cease, as it should were the relationship merely reflex. Dr. Lintz is entirely correct in stating that nasal operations do not cure asthma, provided one follows the patient for a period of say six months after the nasal operation. Sluder is the only rhinologist who has met the reflex idea of asthma with reports in which the postulates of the case are cogently fulfilled. He reports cocainization of the splenopalatine ganglion and cessation of the asthma. I am unable to explain such cases to my own satisfaction. They are not usual, the fact that Sluder takes the pains to report one isolated case shows that. It must be remembered that any trauma, and any infection is calculated to stop an attack of asthma. That is one of the things which has warped the rhinologists' idea of the value of intra-nasal operations in asthma; the paroxysm nearly always stops for a few



days after the operation. One of my patients was being driven home from his office on account of an attack of asthma which had seized him there; the automobile collided with another car and the patient was precipitated on the floor of the car; the asthmatic paroxysm abated and did not return for a week. Another patient had a cellulitis of the arm in the midst of an attack which interrupted the asthma for some months. I am not convinced, however, that any of these considerations affect Sluder's reports, but if reflex asthma occurs it must occur in only a small group of individuals. In the general run of cases the role of reflex action is inconspicuous.

The other general explanation of the relationship devolves upon the attempt to force all cases of asthma into the category of sensitization diseases. An example of this is found in another recent paper that of Rowe<sup>4</sup>, who reported 234 cases of asthma, 91 per cent of which were due to protein hypersensitiveness. Every discussor of this paper at Atlantic City, and all of them were careful to explain that they were "allergy" specialists, expressed surprise that Rowe's results were so high. The tragedy of such reports as this is that men are induced to take up this work with the enthusiastic belief that they will be able to cure asthma with very little trouble, but when they begin to apply hypersensitization tests to large groups of asthmatics they are disappointed to find that the most serious and persistent cases do not react to any substance. This makes young workers, first, doubt their technique and next, often sends them on a rather ridiculous quest for an array of substances to which their patients might be exposed and with which they propose to test them, an array which is quite staggering numerically as well as genetically. Another result is that they are likely to begin to revise (downward) their standards for the positiveness of a skin test. In this connection it is worth noting that the science of allergy needs a Kochian postulate to the effect that not only must the patient be shown to have a positive skin test but he must also be shown to reproduce his symptoms on exposure to the offending substance.

Every clinical investigator of the phenomena of hypersensitiveness has felt the force of this dilemma in their asthma material. This is manifest in their writings; some of them have taken the path of multiplying the number of suspected substances which might cause sensitization. Some of them, notably Walker, believe that the patients are sensitive to the proteins pro-

duced by their own bacteria, the bacteria in the nasal mucosa and the bronchial mucosa. The lack of proved sensitiveness to bacterial protein has vitiated the force of this ingenious argument. All writers seem loathe to accept the idea that there is a large group of cases of asthma which does not belong to the class of hypersensitive diseases.

Nevertheless there is such a group. It is the group of associated nasal infection and asthma. It has been noted throughout the whole course of medicine that there is a relation between respiratory infections and asthma. For better or worse this group has come to be called bacterial asthma. It might better be called perennial asthma.

So far as the relationship between the nasal infection and the asthma is concerned, Gottlieb reports out of 117 cases of asthma 31 cases of disease of the paranasal sinuses. In my own experience, aside from the cases of pollen or hay-fever asthma, (and these should be excluded because in the experience of any one doing allergy work they constitute so high a percentage of all cases as to obscure the facts in regard to perennial asthma), less than twenty per cent of asthma cases show hypersensitization skin reactions. Of fifty consecutive cases of asthma not showing hypersensitization forty-eight, or ninety-six per cent had associated nasal disease. This chronic nasal disease was not negligible or difficult of determination. A severe infectious nasal discharge had existed for many years and caused real discomfort. This association alone would be sufficient to show that there is more than a coincidental relationship between the two diseases. But that is not all. A careful questioning of the patients showed nasal disease had preceded the asthma for from fifteen years to two or three years. *The asthma followed the nasal infection.*

Now we are perfectly aware of the pathology of this type of asthma. It consists in an organic change in the mucosa and sub-mucosa of the bronchi; there is hyperplasia of the lining membranes and a narrowing of the lumen of the bronchi and bronchioli. Bacteria are present in the mucosa and in the bronchial secretions. They are alive and they are multiplying.

The evidence seems to me to lead unavoidably to the conclusion that asthma of this type is the result of infection of the lower respiratory tract by the upper respiratory tract. This infection is the result of droplet contamination, inhalation of secretions during sleep when the glottis is relaxed, and drainage infection backward down the posterior pharynx. This process is marked by

its chronicity. The very fact of the existence of a nasal infection over a long period of time is an indication that the process is not impossible.

As to treatment, it is obvious that in a pathologic condition which has come on so slowly, mere deletion of the nasal infection cannot be expected to result in immediate restitution of the bronchial disease, nor is complete deletion always easy. But nasal operations in asthma are distinctly not "futile." On the contrary the removal of the nasal infection is the first step in the treatment of the asthma. If after that removal is accomplished and the source of re-infection removed, the bronchial infection can be ameliorated by vaccines, non-specific protein therapy, postural drainage, respiratory antiseptics such as guaiacol, the iodides, etc., and inhalants, the patient may in time be restored to some degree of comfort. These happy results are not too frequent. The earlier the case is seen when the asthma is only transitory or present only on exertion, (signs of a moderate bronchial change), the more favorable the prognosis. Some cases under treatment change from asthma to a chronic bronchitis and bronchiectasis which is a better state. In some a final stage of atrophy in the bronchial mucosa supervenes upon the hypertrophic stage and the asthma subsides spontaneously.

#### SUMMARY

There is a form of asthma, associated with and probably caused by chronic nasal disease. Attempts to prove these patients hypersensitive to foreign proteins have not been successful. The relationship between the nasal condition and the bronchial condition is not reflex, but probably the result of direct infection from one to the other. Removal of the nasal infection is the first step in treatment.

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#### R

Undulant fever in man appears to be caused by the same bacteria that causes brucella abortis which causes abortion in cattle. The same organism appears to be the cause of premature births and abortions in the human family. However it is said to kill man. Maybe this will see the finish of the old canard about the doctor saving the old man in case of a confinement in the family.

### Fibrosis of the Uterine Muscle

R. D. IRLAND, M.D.

Associate Professor of Gynecology

Though generalized fibrosis of the uterine musculature is a fairly common disease, very little has been written about it; and that little is not so useful as it might be for the reason that the writers give it names, such as uterine insufficiency, chronic metritis, hyperplastic endometritis, and hemorrhagic endometritis, none of which properly indicates its character.

The cause of this disease is obscure. Perhaps the most logical suggestion is that of Graves who attributes it to a dysfunction of the ovary. The pathologic change involves the blood vessels, the muscle and the endometrium. The most notable change occurs in the musculature which shows a marked increase of connective tissue fibres. In cutting such a uterus one feels through the knife handle a distinct grafting sensation. The cut surface shows whitish fibres coursing among the bundles of muscle cells many of which are probably destroyed by them. The cut ends of the blood vessels show sclerosis and they project appreciably above the tissue surface. The change in the endometrium is marked by a definite hyperplasia which often is quite extensive. It may be a half inch thick and almost polypoid in some areas. Beneath the thickened endometrium are numerous hemorrhagic areas. There is no gross or microscopic evidence of inflammation and it is manifestly improper to speak of this disease as a metritis or as an endometritis. So we are compelled to assume that the changes are due to a local circulatory change; and as it is proved that the ovary regulates the uterine circulatory apparatus one may readily accept ovarian dysfunction as the chief cause of this pathologic process.

Its clinical manifestations are interesting because they so closely parallel those of fibromyoma of the uterus. The outstanding symptom is bleeding. The usual history dates back a year or more beginning with an exaggerated flow at the menstrual period. A little later the duration of the menstrual period is prolonged. Yet a little later the interval between the menstrual periods is shortened. These three phases of abnormal bleeding are progressive; and profound hemorrhages are often a feature of the history.

Another interesting aspect of this disease is its incidence with respect to the age, and the civil condition of the patient. It occurs as early as 22 years, as late as 65 years, in



virgins, in nulliparous, in uniparous and in multiparous women.

The physical findings are not markedly pathologic and unless one has a well defined conception of the lesion, he may readily miss the diagnosis. The uterus is more rounded than is normal, but it may be only slightly enlarged, and it may be only slightly harder than is normal; it usually is in good position with unimpaired mobility. There are no areas of tenderness, nor palpable masses in the pelvis. In doubtful cases a diagnostic curettage will usually solve the problem.

The demand for treatment is imperative. The patient is slowly bleeding to death. Occasionally the hemorrhage is so profuse as almost to exsanguinate her. What is to be done? Drugs, including hemostatic serums, and glandular extracts seem to be of only slight and temporary benefit. Irradiation either with roentgen or radium rays or a combination of them, is credited with being of much value. But in the more conservative clinics, it is still admitted that the matter of ray dosage has not been thoroughly worked out and that there is a real danger of causing permanent damage to the ovaries and intestine which must be given serious consideration.

In my own opinion hysterectomy is at once the most definite and the least dangerous mode of treatment. One hesitates to remove the uterus of a virgin, or of a non-virgin who desires to bear children; but as these uteri are incapable of retaining to term the products of conception, it may not be said that hysterectomy sacrifices a function that has not already been sacrificed by disease.

—————R—————

### Abdominal Actinomycosis—Report of a Case

FERDINAND C. HELWIG, M.D.

Assistant Professor of Pathology

Abdominal actinomycosis has a much higher incidence than is commonly supposed. The difficulties in diagnosis are numerous and the mortality rate is high. The case reported here illustrates many points of interest not only in the diagnosis, but in the etiology and pathogenesis of this infection.

#### REPORT OF A CASE

W.F., a negro chauffeur, 28 years old, entered Bell Hospital February 11, 1926, complaining of pain and swelling in the left lower thoracic region. He had been well until October 15, 1925, when he was suddenly seized with a severe pain in the left

lower chest and arm. He had a cough and expectorated blood stained sputum. On the 1st of November he was hit over the manubrium where a lump developed which softened and was incised by his family physician who evacuated about a teacup full of pus. Nothing particularly striking about the character of the pus was noted. He has lost about fifty pounds since November. He had never at any time been working with cattle and spent most of his life in the city. Aside from constipation he has never had any abdominal distress. At one time he had worked in a packing house with live chickens and his teeth were always very bad. It had been a habit with him to take chicken feathers and pick his teeth with the quills. On examination he showed marked dental caries and palpable inguinal and anterior cervical glands. His liver extended 8 cm. below the costal margin and the lower lobe of the left lung was flat on percussion. A positive Grocco sign was elicited and rales were heard over the lower lobe of the right lung and at both apices. His pulse ran from 116 to 120 and his temperature from 99 to 102. His blood picture showed on admission 4,110,000 red blood cells and 16,000 white cells. After his severe hemorrhage his red count fell to 2,120,000. An x-ray picture of the chest revealed fluid in the left side but none could be aspirated. On the 11th of February a rib was resected but no abscess was found. Some of the tissue was sent to the pathological laboratory and ray fungi were discovered in the histologic sections. When an attempt was made to remove his dressings he bled copiously from the chest wound and a subsequent attempt resulted again in a rather serious hemorrhage. The purulent material flowing from the chest wound showed numerous yellow granules. The patient died March 21, 1926 from apparent toxemia and loss of blood shortly after the second attempt at removal of the dressings.

At necropsy we found a fairly well-nourished negro weighing about 150 pounds and showing marked pyorrhea and dental caries. There was a superficial ulceration over the manubrium and an incision in the left midaxillary line showing a deep cavity with a very foul drainage. The peritoneal cavity showed massive adhesions in the upper abdomen with the hepatic flexure plastered firmly to a large liver and intense adhesions about the liver, stomach, spleen and left diaphragm. The diaphragm was markedly thickened and indurated in this region. There was a large amount of blood in the left thoracic cavity and a hard, indurated, fibro-

tic consolidation of the left lower lobe, which on section showed numerous worm-eaten abscesses filled with thick pus containing numerous actinomycotic colonies. The hepatic flexure, where it was attached to the liver was thickened and indurated and lay on the liver at a point where there was a healing actinomycotic lesion. The mucosa appeared intact but on section through this indurated point several small yellowish abscesses were seen in the wall of the gut immediately beneath the mucosa and extending into the subserosa. The liver weighed 2700 grams and measured 30 by 8 by 16 cm. It showed some small abscesses on the surface beneath the capsule in the region of the healing lesion from which point the infection had apparently traveled in a rather irregular route across the liver over the gall bladder into the left lobe showing numerous varying sized abscesses forming an irregular line across the liver to the spleen which latter was firmly and intimately bound to the liver. The spleen was unusually soft and almost semi-fluid in consistency, it weighed 400 grams and showed an enormous number of yellow granules throughout its softened pulp. The surface and pulp were in intimate and direct continuity with the diaphragm through which there was a sinus leading directly into the lung tissue which sinus was wide enough to permit the entrance of the little finger. The liver lesions as those in the lungs were quite characteristic being composed of irregularly circumscribed spongy areas made up of anastomosing pockets filled with rather thick, viscid, yellow flecked pus divided off by pale yellow, soggy, connective tissue. Peculiarly enough there was no communication found between the manubrial ulceration and the lesions in the lung or liver. All of the abdominal lymph glands were enlarged and hyperplastic but showed no abscesses or granules. Some of the sulphur granules in the pus from the lung, liver and spleen were picked out and placed in a drop of glycerine on a slide, pressed down with a cover glass and examined microscopically. They showed typical ray colonies with the clubbed ends radiating out in a fan-like manner and embedded in a tangled mycelial network.

Histological sections stained with hematoxylin and eosin taken through the hepatic flexure where the abscesses in the wall of the intestine was seen showed considerable flattening of the mucosa with desquamation and mononuclear infiltration. Immediately beneath this there was an increase in fibrous tissue of an old hyaline type which surrounded a large abscess filled with polymor-

phonuclear and mononuclear leukocytes, some of which are necrobiotic. Buried in this purulent material nine typical actinomycotic colonies with radiating eosin staining clubs enmeshed in a basophilic staining mycelia were seen. The muscularis was broken up and infiltrated with leukocytes and the serosa and subserosa were replaced by an old fibrotic granulation tissue which represented the adhesive peritonitis seen grossly.

In the liver there were many poorly defined pockets, the majority of which showed ray fungi surrounded by a zone of polymorphonuclear leukocytes which were in turn surrounded by monos and polymorphonuclear leukocytes intermingled with fibroblasts. This zone was in turn surrounded by a wall of young fibrous granulation tissue which faded out to a more mature type of fibrous tissue. There was also in the liver some increase in fibrous tissue about the portal spaces, some congestion of the sinusoids with red cells and sinusoidal leukocytic infiltration. Sections taken through different abscesses in the liver showed similar pictures aside from the fact that the older abscesses presented a preponderance of fibrous tissue which had undergone hyalinization. Sections through the spleen showed typical fungus colonies embedded in abscesses surrounded by granulation tissue and fibrosis with considerable destruction of the normal splenic architecture. The only difference being that the pockets contain a preponderance of mononuclear leukocytes.

A section through a lymph gland taken adjacent to the spleen showed irregular fibrous cords radiating in from a partially denuded capsule. There was some distortion of the architecture of the gland and several actinomycotic colonies were encountered in one small area. The remainder of the gland showed an increase in fibrous tissue and considerable distortion of the normal structure.

One section taken through the lung, diaphragm and liver where they were all intimately adherent showed dense hyaline fibrous tissue with the same type of abscesses previously described extending clear through. The lung tissue is largely obliterated and one large abscess contained a typical actinomycotic colony. Another section through the lung showed almost complete destruction of the architecture with an increase in fibrous granulation tissue breaking up of the alveoli and a purulent alveolitis. Many of the vessels had markedly thickened walls.



One section taken through the kidney showed a small area of polymorphonuclear infiltration. There was also tubular degeneration and some congestion of the glomerular tufts with red cells.

**Etiology.** There is even now considerable discussion as to the character and habit of the organism responsible for actinomycosis<sup>1</sup>. One Hypothesis, first voiced by Bostroem<sup>2</sup>



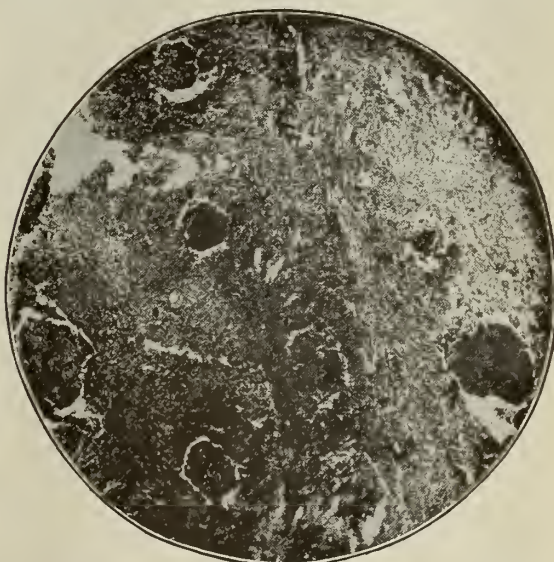
Section through the hepatic flexure of the colon showing actinomycotic colonies lying in an abscess in the submucosa. Mag. X 8.

holds that it is an aerobe, grows on grains, grass and in old sod, from which source it gains access to the body. The other theory, which has been designated as that of Wolff and Israel<sup>3</sup> contends that the organism is anaerobic, very difficult to cultivate, grows only at body temperature and is a normal inhabitant of the gastro-intestinal tract. There is a large amount of evidence both clinical and bacteriologic to support the latter view and the case under discussion suggests very strongly the intestinal origin of the disease. We were unable to grow this organism due to the extensive contamination. None of them were found in the aerobic cultures, although in our anaerobic plates we did procure mycelial structures. The fact that this patient had never been in contact with cattle but did have very badly decayed teeth suggests that this might have been the original source of his infection.

**Pathogenesis:** If we accept the hypothesis of Wolff and Israel regarding the gastro-intestinal origin of this affection the development of the picture is quite logical. Living in the abundant secretions of the gastro-intestinal tract the initial lesion is

started in the mucosa of the hepatic flexure with the fungus slowly burrowing through the wall of the gut infiltrating every tissue with which it comes in contact and leaving a defensive zone of fibrosis in the wake of its invasion. In front as well as behind there is a reaction since the peritoneum becomes active as soon as the fungus is through the mucosa. Adhesions between the liver and gut form with thickening of the gut wall and matting it firmly to the liver. There may be then a re-epithelialization of the original surface ulceration and direct extension into the liver through the adhesions binding the colon and liver together from there across the long diameter of the latter into the spleen and from thence up through the diaphragm into the lower lobe of the left lung. This typical progressive involvement is characteristic of actinomycosis.

**Symptoms:** Sometimes there may be indefinite prodromal symptoms usually overlooked which are represented by indefinite but more or less localized dull pains which may be followed by colic or diarrhea and the usual symptoms of peritoneal irritation which is followed by adhesions and fixation. As in our case there was very little involvement of the peritoneum proper, hence the stage of tumor formation was not present and his first symptoms came on with infil-



Section through a liver lesion showing typical abscesses containing actinomycotic colonies. Mag. X 20.

tration of the diaphragm. The temperature as in our case usually ranges from 99 to 102.

The foregoing discussion as will be noted is not an ideal syndrome upon which to make a diagnosis. Demonstration of the colonies in the draining pus is diagnostic.

The finding of Gram positive filaments is quite suggestive. Often in old lesions the colonies are very hard to find in the tissues. In these cases irregular pockets of pus with old sinuses separated by dense hyaline fibrosis associated with polymorphonuclear leukocytes surrounded by mononuclear leukocytes is almost diagnostic of actinomycosis.

**Prognosis:** The mortality has been placed very high by most writers and after extensive invasion has taken place it is usually hopeless. Occasionally a happy termination may be hoped for if extensive cicatrization takes place. In this stage of healing the induration retrogresses from the periphery to the center and the sinuses may close.

**Treatment:** Early surgical intervention with an attempt at removal of all the diseased tissue in conjunction with large doses of potassium iodide has for a long time been the classical procedure. Wakeley<sup>1</sup> of England has recently treated nine cases of actinomycosis two of which were of the abdominal type which responded remarkably under x-ray therapy.

#### SUMMARY

A case of abdominal actinomycosis is reported which started in the mucosa of the hepatic flexure of the colon and extended through the liver to the spleen then up through the diaphragm into the lower lobe of the left lung without giving symptoms until the diaphragmatic involvement had taken place. The canary colored granules were demonstrated in the tissues before death and the typical progressive involvement was seen at necropsy.

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#### R

#### Lingual Thyroid

MICHAEL J. OWENS, M.D.

Instructor in Surgery

Aberrant thyroid has been defined as a tissue mass located a definite distance from and probably not connected with the thyroid gland proper, having the structure of a normal or pathological thyroid gland.

A comparatively small number of cases of lingual thyroid are to be found reported in the literature and I find on inquiry of my friends that many of them have never seen a case of lingual thyroid. When we know

that surgeons of large experience and possessed of keen power of observation have not met with this condition and that surgeons of wider experience may see only one or two cases during their surgical life, we are forced to believe that the occurrence of lingual thyroid is indeed rare.

In 1921 Lenormont was able to refer to 43 cases of lingual thyroid in the literature, only three in males. Spencer removed from a baby three weeks old a lingual thyroid giving rise to dyspnoea. Hickman reported the death of a baby 16 hours old. Lingual thyroid caused death by asphyxiation.

#### SYMPTOMS

A lingual thyroid may and has been known to exist without producing any symptoms. Difficulty in swallowing, difficulty in breathing and interference with speech and sound production are three things the result of disturbance of motility of the tongue, which early attract the attention of the patient and urge him to consult the doctor, because, as he supposes, for trouble with his tonsils. Pathological changes in a misplaced thyroid may result in the commonly recognized symptoms of toxic goitre. The size of the aberrant thyroid may fluctuate, being influenced at times by menstruation, gestation, etc.

For the privilege of operating upon this case I am indebted to Dr. L. M. Callaway, who after excising and examining tissue from the tumor of the tongue, told the patient the tumor was a lingual thyroid and advised its removal.

Mrs. B. W. Female, white, married. Age 36. Housewife. Referred to me June 29, 1925. Three years ago first knew that she had a growth on tongue. For past eight or nine months has been bothered with a "lump" in throat, cough and shortness of breath on exertion. Has had no associated pain. Tonsils removed six weeks ago. She was then told that there was a tumor on dorsum of tongue well posterior, which should be removed.

Past and family history negative.

On examination I found an enlargement occupying the full width of the dorsum of the tongue at its extreme posterior with elevation of about 1 1-2 c.m. One could not be sure of the presence of thyroid tissue at its normal location in the neck. No other abnormalities could be found. She had none of the usual signs of hyperthyroidism.

The manner of best approaching the tumor was debated and prior to operation I felt that tumor could be removed through the mouth. I decided with the aid of intubation anesthesia to attempt its removal



in this manner. On July 1, 1925 under anesthesia, however, we were not able to so thoroughly deliver the tongue and because of this and the likelihood of the occurrence of embarrassing hemorrhage, removal by this route was abandoned. Incision was made through the skin and fascia in the left side of neck, from tip of mastoid to well beyond the median line anteriorly. Muscles of neck were separated by blunt dissection and the lateral wall of the pharynx opened directly on a line with and exposing adequately the tumor. Incision was then made in the left lateral border of the tongue, over the left side of the tumor, and enlarged by spreading with blunt scissors. Index finger was introduced through this opening and the left lobe very readily enucleated. The septum between the lobes of the tumor was clipped, the opening dilated in the same manner as above described, index finger introduced and the right lobe easily "shelled" out. To our surprise no bleeding at all occurred. The incision in the left border of tongue was closed by two interrupted catgut sutures and the wound in the pharynx and neck closed by layers.

Moderate infection of neck wound took place as might be expected, but her convalescence was smooth and she was discharged from the hospital on the 18th post-operative day. There did occur a slight paralysis of the left side of the tongue, not enough to interfere seriously with function.

We have watched her carefully for signs of hypothyroidism, but none have presented and now nine months after operation she seems perfectly normal, all of which tends to show this was not all of the thyroid tissues she possessed.

The development of hypothyroidism following removal of a lingual thyroid has happened to more than one operator and has necessitated the feeding of thyroid extract in some form. Strictly speaking one should first explore the usual thyroid location by incision to determine its presence or absence before proceeding to remove the lingual growth. However, this may not always give positive proof since we know that portions of thyroid may be located at any point between the tongue and the normal gland location or even below that of the normal.

The method of best approaching tumors in this location is it seems not agreed upon. Some preferring intra-oral, others median-submental or lateral incisions. I note in perusing the literature that most of the disastrous hemorrhages that have occurred have happened when the operator has approached through the mouth. Other than the disfigurement produced by

scar, I see no objection to approaching the field as I did in my case. Certainly the exposure is adequate and the ease with which I could visualize the field of operation makes me feel that I would use the same route if again I am required to remove a similar tumor. The intra-lingual and sub-lingual goitres might I think be best approached through the floor of the mouth.

The following is the report of examination of tissue removed: Character of specimen: Glandular tissue removed from the lingual region of the neck.

#### GROSS PATHOLOGY

The specimen consists of two irregularly round shaped masses of tissue which look like thyroid tissue. The larger piece measures 2.5 cm in diameter and is somewhat flattened on one side. The outer surface is somewhat roughened and partly encapsulated. At one side there is considerable reddish discoloration. On section the tissue cuts rather readily and presents the characteristics of thyroid tissue. Larger and smaller follicles filled with colloid material can be seen. In some areas colloid material is rather abundant. Masses as much as 2 or 3 mm in diameter may be seen throughout the tissue. There seems to be considerable increase in fibrous tissue.

The smaller mass of tissue measured 2.4 by 2.6 by 1.8 cm. Its outer surface is rather rough and nodular. It shows colloid follicles even on the outer surface. It cuts rather readily. The cut surface has a characteristic picture of thyroid tissue, there being larger and smaller follicles filled with colloid. At one pole there is a small yellowish opaque area 3 to 6 mm in diameter.

#### HISTOLOGICAL PATHOLOGY

The section shows many colloid follicles varying considerably in size and shape. Some of them being very large and others considerably reduced in sized. They are lined by a single layer of epithelial cells which in places is flattened, or cuboidal and in other places high and cylindrical in shape. The colloid material varies in amount. It is in general rather deep staining. Many of the epithelial cells are desquamated and thrown out into this colloid secretion. This colloid material often appears vacuolated and degenerated. Many of the lining epithelial cells are very markedly degenerated. Apparently in places there is desquamation and proliferation of these cells into the lumen. The stroma varies considerably in amount being rather irregular in certain patches. There is moderate amount of lymphoid infiltration. A few

hemorrhages may be seen in this stroma. In some places the epithelium is proliferating and shows beginning wrinkling with papillary processes projecting into the lumen. A few hemorrhages are also seen in the follicles. The picture as a whole looks very much like a colloid goiter, showing marked secondary degenerative change and fibrosis.

#### DIAGNOSIS

Aberrant lingual thyroid gland showing some hypertrophy and degenerative changes.

I wish to acknowledge indebtedness to Dr. L. M. Callaway for referring the patient to me and to Dr. H. R. Wahl for the completeness of the pathological report.

—R—

#### Some Complications of Diabetes Mellitus

RALPH H. MAJOR, M.D.

Professor of Medicine ...

During the past three years we have seen among our diabetic patients at the Bell Memorial Hospital a number of interesting complications which are of sufficient interest to be brought together for consideration. Some of these complications are common, others rather rare, some of them are interesting perhaps only as medical curiosities, while from others we have learned very practical lessons which have been applied in the treatment of other patients. Some of these cases have been recorded elsewhere in greater detail.

##### 1. Diabetes Associated With Marked Edema

Gibson and Larimer have called attention to the appearance of marked edema in patients who are under insulin treatment. This interesting finding was observed very early in our insulin experience and we have found it to be extremely common. At least twenty per cent of our patients have shown some evidence of edema after beginning insulin treatment and some ten per cent have shown a rather well marked edema. The following two patients are examples of marked degrees of edema:

Case 1. N. E., Male, age 25, admitted to the hospital April 11, 1923, discharged May 9, 1923. This patient had had diabetes for seven months before admission, during which time he lost approximately 40 pounds. On admission he was extremely drowsy, showed a blood sugar of 345 mg. per 100 c. c. and a carbon dioxide tension of 18.3 volumes per cent. Under insulin therapy and diet his blood sugar was rapidly reduced to 93 mg. per 100 c. c. and his carbon dioxide tension raised to 50 volumes per cent. This patient weighed on admission, April 11, 128 pounds, and on

May 2, 155 pounds. This patient gained 30 pounds while in the hospital and this gain in weight was associated with a marked edema of the feet and ankles, the patient being unable for a period of two weeks to wear his shoes.

Case 2. T. S., Male, aged 54, entered the hospital January 17 and was discharged February 8, 1925. The duration of the disease was eighteen months, during which time the patient had lost approximately 40 pounds. The patient on admission was excreting daily 17 grams of sugar in the urine, the blood sugar was 286 mg. per 100 c. c. and the carbon dioxide tension was 18.3 volumes per cent. The patient's weight on admission was 127 pounds. While in the hospital he gained weight steadily and in two weeks had increased his weight 15 pounds. One week later he had gained an additional 10 pounds, making a total gain of 25 pounds. The gain in weight in this patient was attended by a gradually increasing edema of the feet and ankles, which gradually subsided and had disappeared two weeks after his discharge from the hospital.

This edema alarms many patients very much and its possible appearance should be explained to every one taking insulin. In our experience it has never been severe enough to produce disagreeable or distressing symptoms. We have regarded it as a rather harmless phenomenon. One should, however, be very careful in every case not to confuse this edema with the edema due to myocardial insufficiency.

This edema is usually rather easily controlled with diuretics. The explanation of it is not perfectly clear. It is quite probable that the body tissues which have become desiccated as the result of polyuria, begin immediately after the use of insulin to have an excessive thirst for water. This avidity for fluids is so extreme that the water is taken up apparently before it is properly placed or distributed.

##### *Diabetes Mellitus Associated with Coronary Thrombosis.*

2. This patient was a white woman, age 54, admitted to the hospital on November 22, 1924, and died December 2, 1924. She had had diabetes for nine years, and showed on admission a blood sugar of 526 mg. per 100 c. c. and carbon dioxide tension of 30 volumes per cent. Her blood sugar was very rapidly reduced to normal and her glycosuria disappeared. The patient was apparently getting along very well until the night before death, when she complained of nervousness and seemed to have difficulty in



getting her breath. The following morning she still had dyspnea, marked cyanosis, and some edema of both feet and ankles. At this time she had been on thirty units of insulin a day and it was thought possible that her weakness and nervousness might be due to a hypoglycemia. The patient was given some orange juice but no apparent change was seen in the condition. One hour after the orange juice was administered a blood sugar determination showed 238 mg. per 100 c.c. which ruled out the possibility of insulin shock. Her dyspnea gradually increased, she became extremely cyanotic, gradually grew weaker and died five hours later. The post mortem examination showed the patient to have an obliterating endarteritis involving the coronary arteries, coronary thrombosis with acute diffuse myocarditis, and infarction of the heart.

Two interesting observations may be made regarding this patient. The edema she had was clearly of cardiac origin and not due to insulin therapy. The cause of this edema was correctly diagnosed because of the marked signs of myocardial insufficiency which the patient presented. The other important lesson is that it is very easy to blame a death in diabetes on insulin. This patient's death was clearly in no way related to insulin therapy and the blood sugar determination showed clearly that she did not have a hypoglycemia, yet we had several skeptics who were not convinced until they saw the results of the post mortem examination.

#### *Diabetes Mellitus Associated with Status Lymphaticus.*

3. This patient, whose illness is reported elsewhere in more detail, was a girl aged 11 years, who entered the hospital October 27, 1925, in diabetic coma and died four hours after admission. The patient had had attacks of asthma for a period of four years, which had been increasingly infrequent. The child on admission had a blood sugar of 645 mg. per 100 c.c. and a carbon dioxide tension of 4.5 volumes per cent. At autopsy this patient showed a marked enlargement of the thymus, which weighed approximately 50 grams, and an enlargement of the abdominal lymph glands especially those in the mesentery. Examination of the pancreas showed a marked diminution in the number of the islands of Langerhans with no evidences of regeneration.

The association of status lymphaticus with diabetes mellitus seems to be very unusual. It is of considerable interest that although the patient had been treated with

insulin for two years there was no evidence of regeneration of the islands of Langerhans in the pancreas. It is also worthy of note that the patient received a large number of hypodermic treatments without showing any untoward symptoms. There are many cases on record of patients suffering from status lymphaticus who have died as the result of such a slight trauma as a pin prick.

#### *Diabetic Cataracts in an infant.*

4. A description of this patient has been published elsewhere but the inclusion in this series would seem justified both because it is an unusual complication and also because the additional later history has been obtained. This patient, K.S., a boy age 11 months, was admitted to the hospital August 10, 1923, because of diabetes, which had been discovered one month previously. On examination the child showed a marked lateral nystagmus, the lenses of both eyes were almost opaque and later became entirely so. Dr. Curran operated on this patient and had no hesitation in diagnosing the cataracts as diabetic and not congenital. The patient was dismissed from the hospital on November 27, 1923, and was seen again on January 18, 1924. At this time one of the cataracts had completely disappeared and the other was very much improved. The last reports from this boy stated that the cataracts have entirely disappeared, he is developing normally, and continues in splendid condition.

#### *Xanthoma Diabeticorum.*

5. We have had five examples of this unusual skin complication. These patients show numerous small nodules particularly over the knees, elbows and buttocks. The average size of the nodules is about one millimeter in diameter, although they frequently coalesce forming larger masses of nodules. They are rather firm and have a yellowish orange color. They are frequently mistaken for small furuncles and an attempt was made in one patient to express pus from the nodules. When they are incised they usually bleed and a small quantity of orange-like material may be expressed. The first description of this condition was by Addison and still remains unsurpassed.

All these patients had a yellowish appearing blood due to the marked lipemia and showed high values for blood cholesterol. An interne drawing blood from one of these patients noted its color and thought at first he was dealing with a severe leukemia because of its pus-like appearance. An ex-

amination of the blood, however, showed the color to be due to fat and not to large numbers of leucocytes. Three of these patients were diabetics of only moderate severity, two of them were severe diabetics, one of whom was admitted on the verge of diabetic coma, while the other was admitted in diabetic coma and died.

Three of the four patients with xanthoma diabetorum who were treated showed a rapid disappearance of the xanthomatous nodules. The fourth patient, whose skin involvement was more marked and who had large coalescing xanthomatous areas, did not show a complete disappearance of the lesions until he had been on insulin therapy for more than a year.

In diabetes mellitus these lesions may appear when the patient is sugar free or may disappear while he shows sugar in the urine. This observation at one time seemed somewhat paradoxical but is now much better understood. Xanthoma diabetorum is due directly to the disturbances in fat metabolism. A patient with diabetes may have a marked disturbance in his fat metabolism producing xanthoma diabetorum, although his sugar metabolism is in good condition and he has no glycosuria.

#### *Insulin Shock.*

6. Every physician treating diabetes has had experiences with this condition, and there is nothing more dramatic than the astonishingly rapid recovery from hypoglycemia following the administration of glucose or orange juice. The patient may be almost unconscious and yet be restored to an apparently normal condition in five minutes after taking glucose. We have been fortunate in having had no serious results from any hypoglycemic reactions. The danger of these reactions has been probably greatly overestimated since there have probably been very few deaths in this country from an overdose of insulin. Theoretically, however, it is of course possible but can be avoided.

The fear of insulin shock has probably cost many lives in the hands of rather timid physicians who have been afraid to administer sufficient amounts of insulin in emergencies. Rabbits and other laboratory animals die much more readily in convulsions from hypoglycemia than do human beings. This is not to be interpreted as an invitation to use insulin without safeguards but is a protest against a loss of life which is occurring constantly due to an exaggerated fear of insulin shock. In patients where frequent laboratory examinations

are not possible glucose should be administered with the insulin to prevent shock.

We have recently had two interesting hypoglycemic reactions. The first occurred in a girl 6 years old, who had suffered from diabetes for 18 months before admission. This patient on admission showed a blood sugar of 250 mg. per 100 c. c. and a carbon dioxide tension of 25 volumes per cent. She was placed first on 55 units of insulin daily and later on 45 units. A few days after admission, in the afternoon, she began to scream and toss about in bed and disturb everybody on the floor. Every time the nurse came near her she yelled and screamed, and the attack was interpreted at first as a tantrum of bad temper. On examining the patient, however, it was noted that she had a constant twitching of the right eye and rather convulsive movements of the right arm. Examination of the patient's blood showed that her blood sugar was 35 mg. per 100 c.c. She was immediately given the juice of an orange by mouth and became perfectly normal and docile. This patient had several previous similar attacks which had been considered as fits of temper but which were probably hypoglycemic reactions.

The second patient, a man age 40, had been under observation for two years suffering from a mild diabetes mellitus. This patient was administering insulin to himself and taking thirty units per day. He took ten units of insulin before breakfast and at 11 o'clock in the morning felt badly. Fearing he might be developing acidosis he took an additional ten units of insulin. He lost consciousness a few minutes later and according to the account of his wife began sweating profusely and later had mild convulsions. He remained in this condition from 11 o'clock in the morning until 5 o'clock in the afternoon, when his mouth was opened by force and some glucose poured down his throat. The patient was brought into the hospital soon after the glucose was administered and was partly conscious when admitted. After drinking a glass of orange juice he became perfectly conscious but remained all night in the hospital. The following day he appeared quite normal in every respect but had a blood sugar of 267 mg. per 100 c.c. as the result of the therapeutic use of sugar. This patient was in a hypoglycemic condition for six hours with distressing symptoms but no dangerous results.

The above series of cases illustrate types of interesting complications which one meets constantly in the study and treat-



ment of diabetes mellitus. Diabetes mellitus is a disease of complications as well as a disease of mystery. Insulin has robbed diabetes of its greatest terrors and its use in the physiological laboratory as a tool of investigators is rapidly solving many of the mysteries of this disease.

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### Etiological Factors in Mitral Stenosis: Report of Two Cases

PETER T. BOHAN, M. D.

Clinical Professor of Medicine

From a practical standpoint, the most important feature of mitral stenosis is its cause. Preventive measures are possible only when etiological factors are known. It is the unanimous belief of clinicians that all cases are secondary to an infection; and the only infectious diseases, where the etiological relationship is established, are rheumatism and chorea. The etiological importance of chronic foci of infection in the tonsils, teeth, and nasal sinuses in rheumatism of the joints or muscles, is well established, but that such foci of infection may cause a rheumatic endocarditis without joint involvement is not fully appreciated. The evidence indicating that foci of infection are related, in an etiological way, to mitral stenosis is:—first, the finding of such foci in patients with mitral stenosis that have not had rheumatism or chorea; second, a definite history of such infections; and, third, the experimental evidence from animal inoculation.

Case I. Mr. L. C., age 28, a farmer, was referred to me on November 11, 1926, by Dr. James M. Scott of Lebanon, Kansas.

Chief Complaint: Attacks of palpitation of the heart and a feeling of tire. His trouble began in February, 1925. One night after going to bed, but before falling asleep, he had an attack of palpitation which lasted only a few minutes; followed by an occasional skip in the pulse beat. These spells of palpitation recurred every few nights until May. Since then the same spells have occurred in the day time. They usually bear some relation to exertion, although sometimes come on while resting.

He continues to do his farm work, but tires easily. (The patient thinks over-exertion tends to bring on the attacks.) Before he consulted Dr. Scott, a number of physicians had diagnosed his trouble as functional and he was advised to ignore his symptoms and to continue his work.

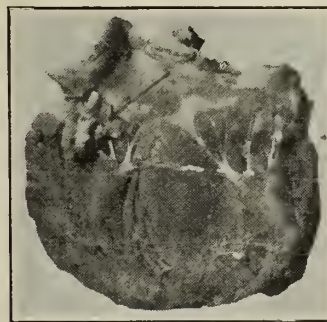
### PAST ILLNESSES

Except for mumps and measles in early childhood, he had never been sick. He had never had tonsillitis nor sore throat. There was no history of chorea or rheumatic pains of any kind. At the age of 18 he was hit in the mouth by a base ball and his right central incisor tooth was knocked out of its socket. He pushed it back in place and it eventually became solid.

In March, 1925, a month after his symptoms began, tonsillectomy was done which did not influence his symptoms in any way. An x-ray film of the incisor tooth, taken shortly after his heart trouble began, showed it to be non-vital. It also disclosed an apical abscess of considerable size. The tooth was then extracted.

### EXAMINATION

The cardio-vascular findings were typical of mitral stenosis. There was a distinct thrill at the apex and a definite presystolic murmur ending in a sharp first sound. The second sound at the apex was indistinct and



Case II. Vegetations on the mitral valve of rabbit produced by the intravenous injection of streptococci recovered from the teeth.

the second pulmonic sound was accentuated. The blood pressure was 140-75. The pulse was 82 and regular. The tonsils were out, the nasal sinuses apparently negative and the gums normal. The right central incisor was a false tooth. X-ray films showed a small tip of the apex of this tooth still in the root socket. This was extracted and Dr. Russel Haden, who made the cultures and inoculated rabbits, gave the following report:

"The root of the right upper central in-

cisor was removed and the bone at the apex curretted. The cultures showed streptococcus.

Four rabbits were injected from these cultures. Three rabbits showed an arthritis. Two had also hemorrhages in the myocardium. One showed no lesions."

During his three days in the hospital he had one attack of palpitation. He was seen by the interne during the attack and his heart rate was 124 and persistently irregular. Electro-cardiograms were typical of mitral stenosis. The diagnosis was mitral stenosis with paroxysmal attacks of auricular fibrillation.

The important features in this case may be summarized as follows:

1. A patient, aged 28, with mitral stenosis without a history of rheumatism, chorea, tonsillitis, or pneumonia.

2. A tooth loosened by an injury at 18. (And undoubtedly an abscess developed at that time or shortly afterwards.)

3. His first symptoms of mitral stenosis developed at 28. (Some authorities give 10 years as the average time from an endocarditis until the onset of the symptoms due to mitral stenosis.)

4. Animal inoculations showed an affinity of the streptococci, from a focus of infection, to localize in the heart.

Case II. Mrs. B., aged 33, married, with one child 11 years old, consulted me March 9, 1926.

#### CHIEF COMPLAINT

Heart trouble and bad teeth. Last October had a tonsillectomy in a doctor's office under local anaesthesia. After going home she gradually became weaker and more nervous and, at the end of two weeks, was compelled to go to bed where she has remained ever since. Her only complaint during this time was nervousness and a feeling of oppression in the left chest. The pulse was regular though a little fast. The temperature did not go above normal until the last ten days.

#### PAST ILLNESSES

Mumps, measles and whooping cough in childhood. Flu complicated by pneumonia in 1918. A severe attack of tonsillitis nearly every winter.

She has never had rheumatism nor chorea.

#### EXAMINATION

Except for the cardiac findings and the three crowned teeth, there was nothing of importance found. The heart apparently was not enlarged. Its rate was 100; the rhythm normal. At the apex there was a distinct thrill and auscultation revealed a

presystolic murmur ending in a snappy first sound. The second sound was indistinctly heard at the apex; the second pulmonary sound was not accentuated. There were no petechia. No enlargement of the spleen or liver could be made out, and there was no anaemia. The leucocyte count was 9,600. A blood culture, made two days after admission to the hospital, was negative.

Electrocardiograms showed the P. waves of high amplitude in lead II.

Realizing the danger of traumatizing too large an area of infected tissue, she was advised to have only one tooth extracted at a time; and this under local anaesthesia. Her family physician insisted that the four dead teeth be pulled at one sitting and under general anaesthesia. This was done. She stayed in the hospital six days and during this time the temperature reached 100, or above, every day and the pulse ranged between 90 and 110.

Cultures were made from the extracted teeth by Dr. Haden who made the following report:

"Four teeth were extracted for this patient. All showed a streptococcus in the broth cultures. Two showed also a profuse growth of the same organism in agar tubes.

Two rabbits were injected with broth cultures. One was dead in forty-eight hours, and showed at autopsy only a marked necrosis of myocardium. The other was killed five days after injection and showed large vegetations on the mitral valve and hemorrhage in the myocardium of the right and left auricles. There was also a slight involvement of the voluntary muscles and joints."

#### COMMENT

The diagnosis in this case was mitral stenosis due to a rheumatic type of endocarditis a number of years ago. The cause of her symptoms from October until she came to the hospital would seem to be a pure neurosis. The elevation of temperature with an increase in the heart rate after the extraction of the three teeth could be accounted for by the stirring up of a latent infection.

What was the cause of the mitral stenosis in this case?

I think I am conservative when I say that the evidence indicates the infected tonsils as the probable etiological factor. This statement can be accepted with reasonable doubt only by those doctors who doubt, or don't know, that an infected tonsil, tooth, or nasal sinus can cause rheumatism. This is known



by the real clinician, that is the family doctor who treats the patient at the bedside and notes the clinical association of symptoms; for autopsies have thrown little light on the etiology of mitral stenosis or how it may be prevented.

It is remarkable that the decrease, since the discovery of focal infection, in the number of cases of rheumatism, as well as mitral stenosis, means nothing to some writers. However, the definite lesions found in the heart of each animal inoculated with cultures from the extracted teeth, is not to be interpreted as indicating the teeth as the original focus in this patient. Microorganisms from different foci usually develop chemical affinity for the same organ. But the frequency with which microorganisms from the infected teeth or tonsillar crypts in patients with rheumatism or atheromatous heart disease tend to localize in the heart when injected into animals is striking. No apology seems necessary for the suggestion to remove the chronic foci of infection and to watch the effect on the incidence of the disease.

—R—

### MEDICAL SCHOOL NOTES

At the Missouri State Medical Society on May 18 and 19, Dr. H.L. Dwyer will present a paper on "Concentrated Feedings in Infancy," and Dr. F.C. Helwig will present a paper on "The Action of Tobacco on Epithelial Cells."

Dr. Ralph Major attended the meeting of the Pottawatomie County Medical Society at Council Bluffs, Iowa, and presented a paper on "Arterial Hypertension."

At the meeting of the Jackson County Medical Society at St. Mary's Hospital, Kansas City, Mo., on April 13, Dr. P.M. Krall read a paper on "Aortic Stenosis," Dr. Logan Clendenning presented a paper on "Aortic Regurgitation," Dr. H.L. Dwyer, "Empyema in Children," and Dr. M.J. Owens, "End Results in Gall Bladder Surgery."

Dr. John Winkler, '25, who is interning at the Cleveland City Hospital, Cleveland, Ohio was a visitor in Kansas City on March 31. Dr. Winkler has accepted a position as assistant resident for the coming year at Cleveland.

Dr. Ben Morris, '25, was a visitor at the Medical School several weeks ago.

Dr. Caryl Ferris has been appointed a

member of the Staff of the Research Hospital Diagnostic Clinic.

Dr. R. L. Haden presented a paper on Focal Infection at Detroit on April 14.

Dr. L. G. Allen presented a paper at a recent meeting of the Academy of Medicine on "X-Ray Diagnosis of Tuberculosis."

Mr. Fred Kuhlman, a member of the Senior class has been very ill at the Bell Memorial Hospital, but is now recovering quite nicely.

The Medical School has added a new Physio-Therapy Department at the Bell Hospital which is completely equipped with Diathermy, Electric Baths, Ultra-Violet treatment, Hydro-therapy and Massage.

Dr. E. H. Hashinger recently was a visitor to Washington, D. C., and while there visited the George Washington University. He also visited his old home at Hagerstown, Md.

Dr. R. H. Major presented a paper on Hypertension at a recent meeting of the Saline County Medical Society at Salina.

Dr. C. S. Williamson, Prof. of Medicine at the University of Illinois was a recent visitor at the Medical School and gave a talk to the students.

Dr. F. C. Helwig will present a paper at the meeting of the Kansas State Medical Society, May 1.

Mr. Gerald Smith of Pittsburgh, Kan., and Mr. Fred W. Angle, Kansas City, Kan., members of the Senior Class, have received appointments as Assistant Surgeon, Lieutenant Junior Grade in the United States Navy. They will report for duty on July 1, 1926, and will be sent to one of three Naval Base Hospitals located at New York City, San Diego, Cal., or at Washington, D. C., where they will receive their internships. There were about 200 men examined and of these 36 received appointments. The examinations were held at the Great Lakes Naval Training School on January 4, 1926.

Dr. Frank C. Neff will present a paper in collaboration with Dr. F. C. Helwig, and Dr. L. P. Engel, on "Carcinoma of the Liver in Children," at the meeting of the American Pediatrics Society, at Niagara Falls, on May 31, June 1, and 2nd.

—R—

The high cost of living? No! Its the high cost of foolishness that gets our goats.

# THE JOURNAL

*of the*

## Kansas Medical Society

W. E. McVEY, M.D. - - Editor

ASSOCIATE EDITORS—SAM MURDOCK, L. B. SPAKE, P. S. MITCHELL, O. P. DAVIS, J. T. AXTELL, E. S. EDGERTON, E. G. MASON, J. D. RIDDELL, C. S. KENNEY, D. R. STONER, J. A. DILLON, W. F. FEE.

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### THE FUNCTIONS OF A MEDICAL SCHOOL

A medical school whose function is limited to the training of students for the practice of medicine has been stunted in its development. Its usefulness does not justify the necessary expense for its maintenance. On that argument alone the legislators of a state feel that they are justified in refusing adequate appropriations for the development or for the enlargement of a medical department of a state university.

The vision of the profession as well as the legislators must be enlarged, they must be made to comprehend, in some way, the scope of usefulness of such a school.

The state's educational program is no longer limited to the training of its youth, nor to a curriculum for its matriculates only. By extension courses, publicity and otherwise, the citizens of a state benefit directly and indirectly from the investigations, experiments and research that are carried on in its institutions.

For instance, our agricultural college does not limit its educational efforts to the training of its students, but the farmers of the state are given the benefit of whatever may be discovered in the study of soils, plant food requirements, appropriate seeds; and they have benefitted largely in the matter

of stock raising by the researches in this department of the school.

In these modern times, the training of students for the practice of medicine is only an incident in the educational program of a medical school. The more important part of its program is the education of the practitioners in its territory. Much of the progress in medicine has resulted from the painstaking, tireless, laboratory investigations by the men connected with these schools; and from the careful clinical observations on thousands of cases that are used for instruction. To whatever extent the work of the medical school may add to the knowledge and ability of the practitioners of its territory, to that same extent it will benefit the people of the state in the better protection of their health and happiness.

It was with this larger conception of the functions of a medical school in mind that arrangements were made, some five years ago, for the regular appearance in the Journal of the Bell Memorial Hospital Clinics. With most hearty cooperation of the faculty and officers of the School of Medicine it has been possible to make the clinics one of the most interesting and attractive features of the Journal. No one who has read these contributions can have failed to add something of value to his store of knowledge. Those who did not read them have missed much that might have benefitted themselves and their clientele.

The present number of the Journal is made up almost entirely by contributions from members of the staff of the School of Medicine. Readers of the Journal will find in these articles much that is interesting and instructive. The primary object in presenting the Medical School number of the Journal is to demonstrate to some extent the potential educational importance of such an institution to the medical profession of the state.

### MODERN MEDICAL EDUCATION

Modern medical education has received much criticism in recent years, some of which is true but most of which is unwar-



ranted and largely based on misinformation, lack of appreciation of modern conditions, or ignorance of the perplexing problems that confront the present day medical school. The modern medical school is a very different organization than the proprietary medical school twenty or thirty years ago. The fundamental sciences of anatomy, physiology, biochemistry and pathology, forming the basis of modern medicine, have made such enormous strides that in the attempt to correlate these advances and assimilate them with the demands of medical practice the schools have become highly organized and complex. The entire matter of medical practice is in a state of flux and modern medical education is but a reflection of this fact.

Our schools are criticized because the recent graduates tend to remain in the cities and refuse to go to the small towns. This is not limited to medical graduates. It is equally true of other professions. Actual study of the distribution of graduates does not entirely justify these statements. Recently, this was investigated in the Medical School of the University of Kansas, and out of 134 recent graduates locating in Kansas, 34 were in towns of less than 1000, and 36 in towns of 1000 to 5000; in other words, over one-half were in relatively small towns. In general, neither the quantity nor quality of medical education will affect the distribution of recent graduates. The economic and social aspects are the determining factors.

The criticism that the recent graduate is impractical and ultrascientific is in many instances true, but this does not imply a fundamental defect in modern medical education. Many schools are making an effort to reduce this to a minimum. It is the result of an exaggerated emphasis of the laboratory by the immature mind of the young graduate. A few years' practice soon gives the average young graduate the proper perspective of the laboratory with other methods of practice. The young physician cannot be expected to do the same work and have the same judgment that the experienced practitioner has. It is not the fault of the school if the recent graduate attempts to fill in his

defect in judgment and use of his five senses with laboratory methods. A school cannot teach judgment. That can only be acquired with experience. The tendency to substitute the laboratory for brains and the five senses is not limited to recent medical school graduates.

A certain amount of fault is found with our schools because too much time is spent on the basal sciences and the diagnosis of disease, and not enough on the treatment of disease. There is some truth in this. It must be remembered, however, that there is no subject in medicine that is so variable and subject to such changes and differences of opinion as therapeutics. The only logical method is to emphasize the basis of disease and the principles of action of drugs and therapeutic procedures, and allow the student to adjust these to suit the individual case. To do otherwise would be cramming a mass of unrelated drugs and therapeutic measures in the student's head. It would be like putting the cart before the horse.

Much of the criticism of medical education as given today is made without realizing the unstable condition of everything medical. Who knows what the future of medical practice will be? How much of it is going to be essentially preventive medicine? What is to be the fate of the "family doctor?" What will be the outcome of "group" practice? What part will state or social medicine play in the future? What is the significance of the tendency to specialize? Until these and many other questions are answered, the medical schools are at a loss as to just what is the best curriculum to give their students.

The criticism of the schools is doing much good. Some of it originates among the schools themselves. If the schools were apathetic there would then be cause for worry, but this is not the case. The schools realize that their product is not all that is desired and they know that as long as the uncertainty of the future of medical practice exists no stable curriculum can be offered the student. It is their duty not only to acquaint the student with the medical knowledge of today, but to prepare him for

what may develop in the next twenty years.

In order to acquire authoritative information on the conditions of general practice the Association of American Medical Colleges has initiated an elaborate survey of the medical needs, modes of practice, hospital facilities, rural facilities, medical schools, public health activities, and so forth, in every part of the United States. This is to be the most thorough survey in education that has ever been attempted. It is estimated that it will take five years to complete it. It is in charge of prominent men interested in all phases of medical education, and includes such men as President Lowell of Harvard University, Dr. Wilbur of Leland Stanford, Dr. Pusey of Chicago, Dr. Cabot of Michigan, and about fifty others. This survey is in progress now. During this period experiments in medical education are being carried on to report results to this commission at the end of several years. For instance, one school is contemplating using a modified form of the old preceptor system, and another the apprentice plan, adapted to modern conditions. It is hoped that when this survey is concluded an ideal medical curriculum will evolve that will remedy the defects of the present method of medical education.

Until such a survey is completed the purpose of modern medical education must be twofold: First, to turn out graduates with such a thorough foundation in the fundamental medical sciences that they can cope intelligently with whatever medical problem presents itself in the future, and adapt themselves to whatever mode of practice that is best. Secondly, to select a group of young men of the highest character and imbue them with the spirit of service emphasizing that their goal is not the successful practice of medicine so much as the successful service to the community.

H. R. WAHL

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### CHIPS

Intolerance is a primitive hangover trait from the cave man.

The bacteriophage is the entity that salvages the human.

Ability to hold the breath is now recog-

nized as a diagnostic symptom in diagnosing certain diseases.

A man never learns much when he is talking. That is the reason a still tongue makes a wise head.

Alcohol colors a man's nose. Fermentation of the juice of the leaf after it matures tints it red.

Animals, long listed as being immune to leprosy, are getting it through the monkey.

Because more oxygen can be administered with it cyanosis is not produced with ethylene as with nitrous oxide, according to new and non official remedies. Other advantages over nitrous oxide are that anesthesia is induced just as rapidly and more pleasantly to the patient, the relaxation is greater and recovery more rapid. The objections to ethylene are its odor, its inflammability and apparently it increases the oozing from the wound during its use.

Salmon describes the grave somnolency from which Napoleon frequently suffered in the last year of his life and which is said to have been partly responsible for his defeat at Waterloo. Salmon quotes the reports on the obesity and the atrophy of the testes which developed in Napoleon, and agrees with Guthrie in the diagnosis of adiposogenital dystrophy due to some pituitary lesion. The tendency to somnolency sustains this assumption.—(Abs. in J.A.M.A., Jan.30., '26.)

The Council on Pharmacy and Chemistry announces that all streptococcus vaccines and all vaccine mixtures containing staphylococci and acne bacilli have been omitted from New and Nonofficial Remedies because experience with these preparations have not established the value which it was hoped they possessed and because recognized experts to whom the Council looks for help have concluded that these preparations have no field of usefulness.—(Jr.A.M.A., Jan. 23, '26.)

In a significant address—the sixth annual Pasteur lecture—recently given before the Chicago Institute of Medicine, John J. Abel made public announcement that he had obtained a crystalline form of insulin. The chemical and medical world will await with great interest further developments, particularly the proof of the identification and chemical constitutions of the product. The crystallization of the pure principle "insulin" or a compound of it, may well be considered an outstanding accomplishment in the life of a man already distinguished by his conquests in biochemistry.—(Jr.A.M.A., Jan. 30, '26.)



## SOCIETIES

## RILEY COUNTY SOCIETY

The Riley County Medical Society met at the Gillett Hotel at 6 p.m., April 12. Members present: Drs. Bressler, Cave, Ross, Groody, Siever, Colt Sr., Colt Jr., McFarlane and Reitzel.

A communication from M. F. Ahearn, Director of Athletics at the Kansas State Agricultural College, relative to treatment of members of athletic teams, was read and placed on file.

The matter of an advertising specialist was discussed. Dr. Colt Sr. was appointed to investigate this man's registration.

Dr. Ross reported a case of Scarlet fever. Dr. McFarlane reported a case of Gall stone perforating the bowel. Discussed by Dr. Colt Sr. Dr. Colt Jr. reported an unusual case of scarlet fever. Dr. Siever reported a case of cancer.

Dr. Ross read a paper on Mastoiditis; discussed by Dr. Reitzel and Dr. Colt Sr.

Meeting adjourned.

W. M. REITZEL, Secretary

## ELK COUNTY SOCIETY

The Elk County Medical Society held its quarterly meeting Wednesday evening, April the fourteenth, at six o'clock at the Howard Hotel, Howard, Kansas.

An out of town guest was Dr. C. W. Lawrence of Emporia, who presented a valuable paper on "The Diagnosis of Abdominal Diseases." Discussions were by Doctors S. F. McDonald of Severy, R. C. Hutcheson of Elk Falls, and F. L. DePew, F. R. Reid, W. O. Russell and R. C. Harner of Howard.

R. C. HARNER, President

## SHAWNEE COUNTY MEDICAL SOCIETY

The April meeting of the Shawnee County Medical Society was held at Pelletiers Tea Room, Monday the 5th., following an afternoon meeting of the Golden Belt Medical Society.

Dr. Philip H. Kreuscher, Professor of Orthopedic Surgery of Loyola University Medical School, Chicago, presented a paper on the subject of Backache. This paper was accompanied by a lantern slide demonstration. There was an attendance of approximately 70 members and guests at the meeting.

EARLE G. BROWN, M.D., Secretary

## RICE COUNTY MEDICAL SOCIETY

The Rice County Medical Society was host at a dinner given in the grill room at Hotel Jennings, Sterling, Thursday evening, March

25, in honor of the fiftieth anniversary of Dr. P. P. Trueheart's graduation in medicine.

Fifty-two were present including sixteen of the eighteen members of the society with their wives or a special guest and twenty outside of the society, mostly medical associates of Dr. Trueheart.

After dinner Dr. Trueheart read a paper on "Then and Now." He told something of conditions in the frontier days, he having located in Sterling in 1878, and of the varied changes which we now find. He had crossed the Arkansas River before bridges were available, on horse back, in a buggy, in a boat, on the ice, and on a man's back. Had made trips long distances with the horse and done work under adverse circumstances.

"Our Guest of Honor" was responded to by Dr. C. E. Fisher. Dr. H. G. Welch, Hutchinson, talked on "A Business Partner." W. B. Wirshing spoke on "My Family Physician."

"One of His Boys" was assigned to six doctors who began the study of medicine in Dr. Trueheart's office.

"A Colleague" was responded to by Dr. E. E. Morrison of Great Bend.

Dr. Ross, president of the society, then presented the Doctor with a gold headed cane, commemorating this event, bearing the inscription "1876-1926. Dr. P. P. Trueheart. From Rice County Medical Society."

The following were present: All members of the society excepting Dr. Stredder of Geneseo and Dr. Muir of Alden, who were unavoidably detained, and with each his wife or a special guest.

Guests invited and present were: Mrs. E. C. Fisher, Lyons; Dr. and Mrs. C. E. Ward, Little River; Dr. and Mrs. H. G. Welch, Hutchinson; Dr. and Mrs. E. D. Kilbourn, Wichita; Dr. and Mrs. H. H. Taggart, Wichita; Dr. and Mrs. E. E. Morrison, Great Bend; Dr. and Mrs. F. M. Koons, Nickerson; Dr. and Mrs. W. W. Humphreys, Sterling; Rev. and Mrs. G. E. Spear, Sterling, Dr. Trueheart's pastor; Miss Clara E. Miller, R. N.; Mr. and Mrs. W. B. Wirshing, Sterling, and Mrs. Crissie Hughes, secretary.

## DEATHS

Dr. Daniel Alcott Holland, Winfield, Kansas, aged 42, died March 7, of influenza. He graduated from the University of Louisville School of Medicine in 1909.

Dr. Charles Allen Martin, Manhattan, Kansas, aged 51, died March 18, of bronchopneumonia. He graduated from the Detroit Homeopathic College in 1902.

### Authorized Scarlet Fever Products for the Diagnosis, Prevention and Treatment of Scarlet Fever

The demonstration in 1923 by Drs. George F. and Gladys H. Dick of the Memorial Institute of Chicago of the cause of scarlet fever by means of human inoculation experiments, and the discovery by them of the specific toxin of the disease and corresponding antitoxin, laid the scientific foundation for the development of a specific, potent and standardized Scarlet Fever Antitoxin.

The antitoxin developed by the Dicks was obtained by immunizing horses with sterile scarlet fever toxin, and the antitoxic serum from these horses was concentrated not only to increase its potency but to avoid or reduce the frequency of severe serum reactions.

Since the announcement of the discovery by the Dicks of scarlet fever antitoxin sufficient time has elapsed to have given it a thorough trial, not only for passive immunity, but also for the treatment of scarlet fever.

It has been found that the administration of a properly prepared and standardized, concentrated scarlet fever antitoxin, in cases of severe or moderately severe scarlet fever, blanches the rash, lowers the temperature, improves the general condition and, when given early, greatly diminishes the incidence of complications and sequelae. Used prophylactically in adequate doses, the antitoxin prevents the development of scarlet fever in susceptible persons, even after infection has occurred.

The most striking results following the administration of the antitoxin are obtained in those cases to whom the antitoxin is administered within the first three days of illness or, in other words, when the rash of scarlet fever is appearing. The intravenous administration of adequate doses of scarlet fever antitoxin to such patients is frequently followed by a fall of the temperature to normal in less than twenty four hours, and a marked diminution if not a complete disappearance of the rash.

The patents granted to Drs. George F. and Gladys H. Dick have been assigned by them to the Scarlet Fever Committee Inc., of Chicago for administration, and the Scarlet Fever Committee Inc., has granted the first license to E. R. Squibb & Sons for the manufacture and sale of authorized scarlet fever products. Prepared under the Dick patents, these authorized scarlet fever products consist of Scarlet Fever antitoxin, both therapeutic and prophylactic; Scarlet Fever Toxin for the Dick Test to determine susceptibility

to scarlet fever; Scarlet Fever Toxin for active immunization against scarlet fever, and Scarlet Fever Antitoxin to be used in the diagnostic blanching test.

It is to be noted that the Council on Pharmacy and Chemistry of the American Medical Association has accepted all of the authorized scarlet fever products put out by Squibb & Sons, and that the Squibb Scarlet Fever Toxin, both for the Dick test and for active immunization, are the first, and so far, the only scarlet fever toxins accepted by the Council on Pharmacy and Chemistry of the American Medical Association. It would be well to note the strict control under which the Squibb authorized scarlet fever products are prepared. The Squibb products are prepared and thoroughly controlled by (1) the controls and tests made in the Squibb Biological Laboratories; (2) under Government regulations samples of each and every lot of scarlet fever toxin and antitoxin are required to be submitted to the Hygienic Laboratory for test and approval and (3) samples of each and every lot of scarlet fever toxin and antitoxin prepared under the Dick patents are required to be submitted to the Scarlet Fever Committee Inc., for laboratory tests and clinical trial before any of that particular lot is placed upon the market.

This triple control (which does not exist for any scarlet fever products not prepared under license from the Scarlet Fever Committee Inc.,) insures products of absolute and maximum potency and is, in effect, a guarantee on the part of two control institutions, independent of the Squibb organization, as to the potency of the Squibb line of scarlet fever preparations.

Scarlet Fever Antitoxin prepared by E. R. Squibb & Sons may be used by physicians with the assurance that the tests made by the Scarlet Fever Committee Inc., have shown that each and every lot is distributed in a dosage which has been found by them to be therapeutically efficient in cases of developed scarlet fever, and which will give protection when used for passive immunity. Under the requirements of the Scarlet Fever Committee Inc., the Squibb Scarlet Fever Toxin for active immunization is put out in a dosage which has been found to be effective in bringing about active immunization.

The Squibb scheme of treatment of scarlet fever toxin contains more than 10 times as much active immunizing material as that of a number of competing brands on the market.

In order that druggists may furnish to physicians the authorized scarlet fever pro-



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ducts, prepared by methods developed by Drs. George F. and Gladys H. Dick, they should carry in stock the Squibb line of authorized scarlet fever products.

### Residual Effects of Warfare Gases

At the request of the American Legion and other agencies, General Frank T. Hines, director of the U.S. Veterans Bureau, upon the recommendation of Dr. Crossman, Medical Director, has appointed a Board of Medical Officers to conduct an investigation and make an intensive study of the residual effects of warfare gases.

The members of this board are:

Dr. A.K. Krause, member of the group on Investigation and Research of the Medical Council of the U.S. Veterans' Bureau and Associate Professor of Medicine at Johns Hopkins University.

Lt. Col. Harry L. Gilchrist, M.C., U.S.A., Chief of Research Division, Chemical Warfare Service, United States Army.

Dr. Phillip B. Matz, Chief, Medical Research Sub-division, United States Veterans Bureau.

This Board held its first meeting March 9, 1926, at the U.S. Veterans Bureau and it was decided to begin the investigation at once. This will necessitate the study of the present status of some 70,000 men who were gas casualties during the World war, and will extend over a period of 12 to 18 months.

Outside of the knowledge obtained from experimental work on animals very little is known about the remote effects of the various war gasses on the body economy. The investigation is purely a scientific one, the findings of which will be not only of clinical value to the ex-service men and the Veterans Bureau, but is being looked forward to with a great deal of interest by some of the other governmental departments.

### Iron Therapy in Anemias of Infancy

Murray H. Bass and Bernard S. Denzer, New York (Journal A. M. A., March 27, 1926), recommend the use of inorganic iron in the treatment of anemias of infants not due to infection or diet. They use only saccharated ferrous carbonate in amounts varying from 30 to 60 grains (2 to 4 Gm.) a day. In the prevention of anemia attendant on a too prolonged milk diet, the use of green vegetables, beef extracts and liev still has a well established place.

A man never learns much when he is talking. This is the reason a still tongue makes a wise head.

Required by the Act of Congress of August 24, 1912, of the Journal of the Kansas Medical Society, Published Monthly at Topeka, Kansas, for April 1, 1926.

State of Kansas, County of Shawnee, ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared W. E. McVey, who having been duly sworn according to law, deposes and says that he is the editor of the Journal of the Kansas Medical Society and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of	Post Office Address
Publisher—W. E. McVey, under direction of the Council of the	
Kansas Medical Society.....	Topeka, Kansas
Editor—W. E. McVey.....	Topeka, Kansas
Managing Editor—None.	
Business Manager—None.	

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)

Kansas Medical Society, F. A. Carmichael, Osawatimie, Kansas, President; Dr. J. F. Hassig, Kansas City, Kansas, Secretary; Dr. Geo. M. Gray, Kansas City, Kansas, Treasurer.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relations, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is: (This information is required from daily publications only.)

W. E. McVEY, Editor.

Sworn to and subscribed before me this 5th day of April, 1926.

EVANGELINE INGERSOLL,

(Seal.)

Notary Public.

(My commission expires April 15, 1929.)



The bacteriophage is the entity that salvages the human.

R

The high cost of living? No! It's high cost of foolishness that gets our goats.


R

Animals, long listed as being immune to leprosy, are getting it through the monkey.

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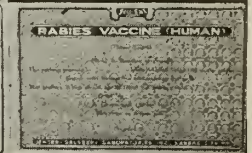
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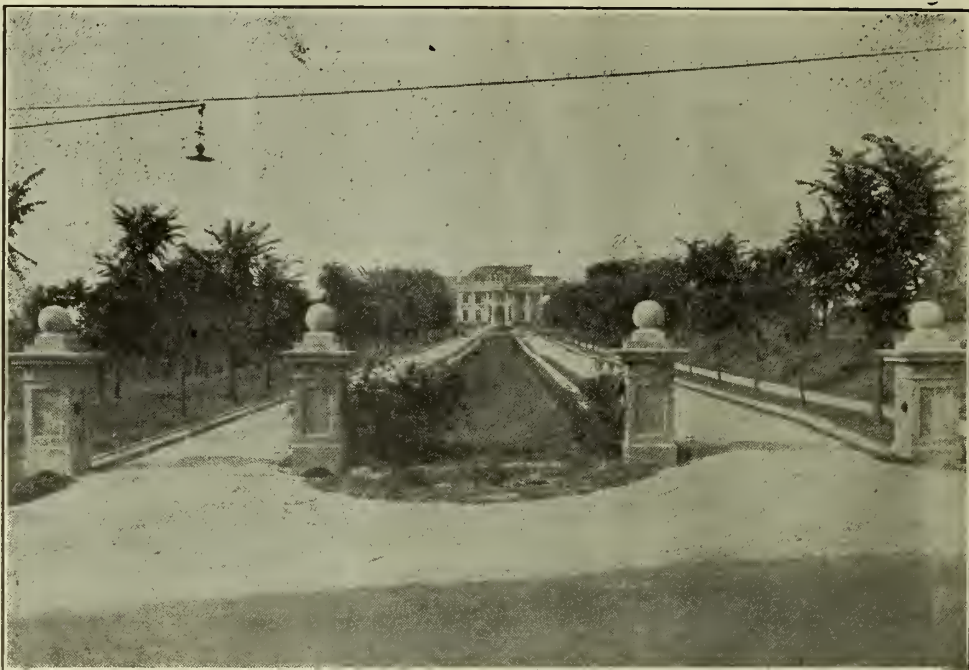
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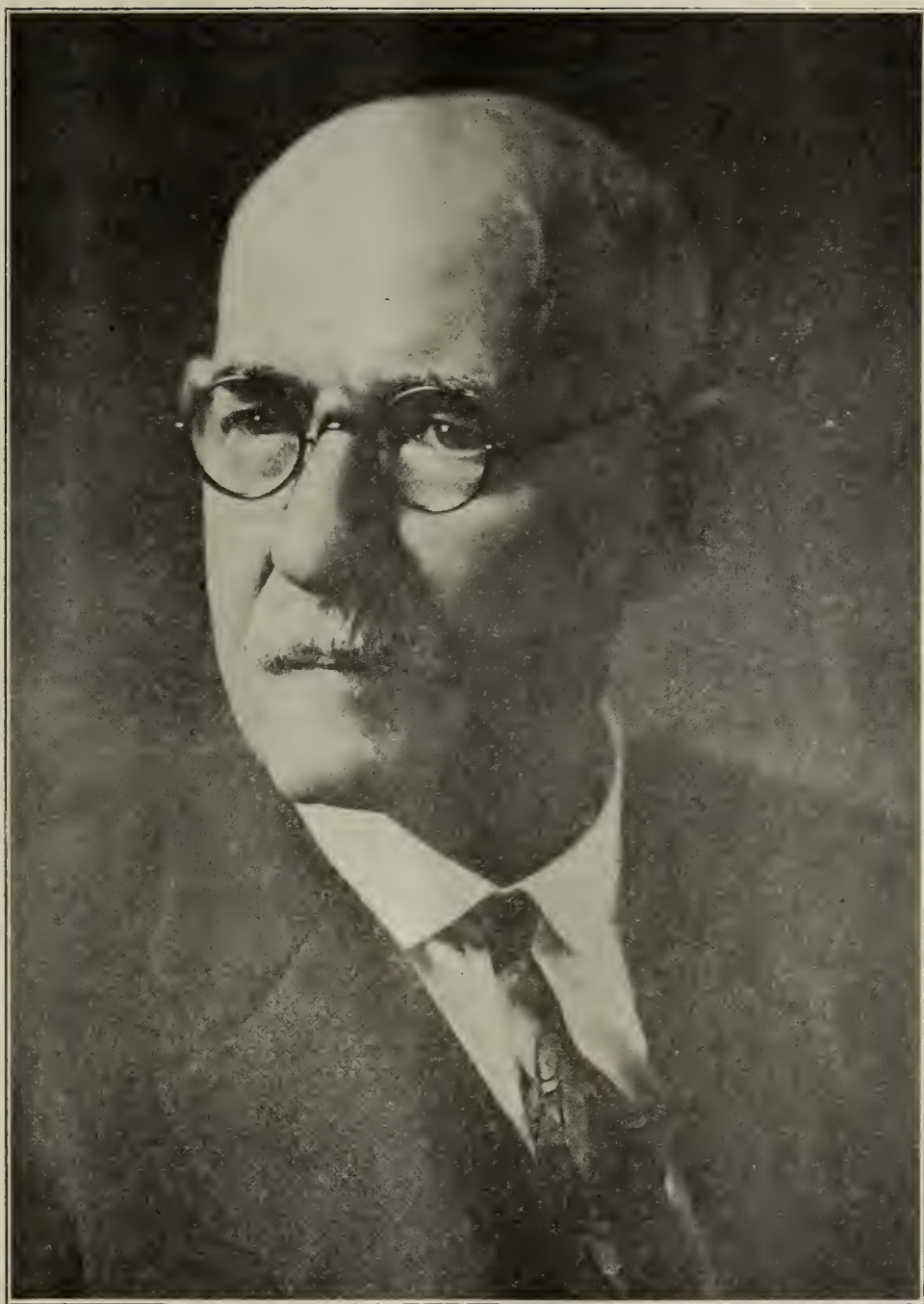
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B. F. MORGAN, M. D., Clay Center  
President-Elect Kansas Medical Society





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### ADDRESS

F. A. CARMICHAEL, M. D., President

Delivered at the annual meeting of the Kansas Medical Society at Kansas City, May 4, 1926.

Custom has decreed that the president, in his annual address, shall present some scientific contribution or a theme which offers something in the nature of suggestion tending to promote the interests or stimulate the progress and betterment of the Association by which he has been so signally honored. I have approached this task with becoming timidity recognizing the difficulty of submitting anything of a scientific nature relating to progress or research that has not already been presented, or will not appear during the course of the program to which you will be privileged to listen. What observations I may make or what suggestions I may offer for the advancement of our state organization must necessarily represent the opinion and conviction of one of you only. They will be general in character and are offered largely as subjects to be considered as to their eligibility for discussion. It has been my habit to state my convictions frankly. Human fallibility is always conceded and it is entirely within the province of this society to endorse or disparage the content of the observations submitted. I may only hope that in their consideration some small fragment may survive that may be utilized to the betterment of our organization.

As we view in retrospect the progress of the profession through its many stages of development, from a conception based largely upon religious views, superstitions, and ignorance, its various exponents expressing widely different views and teachings, each dogmatic and empirical, each supported by ardent exponents, through the slow and painful stages of evolution as it gradually emerged from a system of sorcery, incantations and blind superstitions, and by attrition gradually correlating and bringing to bear on the problems of cause and effect in relation to human morbidity, a progressively accumulating store of scientific knowledge, and through the assistance of the allied sciences gradually pene-

trating the veil of mystery surrounding the causes of human ills, patiently seeking verification of causative morbid agents and step by step carefully determining the value of methods employed in treatment, we are impressed with the magnitude of the task of marshalling all the agencies that a century of intensive study have placed at its command in this progressive and relentless warfare against the cause, and equally courageous and untiring search for remedies that may prevent, relieve or eradicate the ills of humankind.

Gaining momentum as science has gradually developed and placed in our hands auxiliaries for the determination of embryonic and physiologic facts by which the hypothesis formulated by our contemporaries may be supported or controverted, the progress and trend of medicine with its varying modalities and finally its glorious accomplishments stands today firmly established upon a foundation of proven scientific fact. And from the early dawn of concerted medical effort, the high ideals and fraternal ties of men collaborating in this greatest of all human causes have been manifested, first in the Hippocratic oath, which represents the most sublime profession of faith and the most sacred pledge of the legitimate medical profession, and later by an organization of fraternal and cooperative effort, of which our County, State and National Societies are representative. The medical structure of today stands before us not a completed work but a work of unsurpassed achievement and of glorious promise.

This splendid structure is reared upon the foundation laid by Lister, Erlich, Semmelweis, von Haller, Auerbruger, Laveran and Koch, by Phiefer, Rosanow, Gates, Noguchi, Shaudin, and in our own generation by a veritable galaxy of brilliant men whose more recent contributions bid fair to out-shine those of their predecessors, the lustre of whose names will illuminate the pages of medical history for ages to come and the stimulus of whose devotion and effort will be felt by generations of medical men to follow, inciting them by a glorious example to unflagging effort in the cause of medical advancement. And to

this cause no other human benefaction has even remotely approached.

It is most natural that a body of men in whose minds and hearts one single object—the prevention and cure of disease and the amelioration of human suffering was dominant, should, from the very nature of their calling be banded together in ties of fraternal fellowship, or that this fellowship should find its expression in the organization of an association for the purpose of establishing personal and professional contacts, free interchange of thought and for the promotion of scientific advancement.

Our National organization composed of a membership of approximately 90,000 is supported by our State, District and County Societies, forming a vast arterial channel through which flows all the accumulated knowledge and experience of its individual members. The provisions for publicity are adequate and each may profit by, and share the achievement of the other. This effective means of dissemination of the wealth of scientific knowledge that has within recent years been conveyed through these channels has resulted in the broadening of the medical field to a degree that specialization has become seemingly necessary in some of its branches and its gradually widening scope has embraced the greater problems of disease prevention and public health. Epidemiology and preventative medicine striking directly at the causes of disease have been tremendously stimulated. Today many of the infections and many of the exanthemata are known to be preventable and the toll of human life from their ravages is decreasing year by year. The scourge of pestilence is being rapidly lifted from the human family.

While cholera claimed 276,000 lives in India in 1924 no case of this disease has been reported in our country for many years. For years our southern ports were constantly menaced by yellow fever but during the fiscal year just past no ship has been detained in, or debarred from entering our ports because of this disease. Twenty-five years ago the death rate from tuberculosis in the United States was 200 plus per hundred thousand—in 1924 it was 84.6. Twenty-five years ago diphtheria claimed 43.3 for each hundred thousand population. In 1923 only 12.1 per hundred thousand succumbed to this disease. Forty years ago the death toll from all diseases in the United States per thousand population was 19.8—in 1924 it was 11.9. Even leprosy, that loathsome disease existing

from the dawn of our earliest history, is being subdued and it may be confidently expected that the next half century will witness its complete eradication. The mental as well as the physical aspects of disease and their correlation are receiving long delayed but careful and painstaking study. The necessity for safeguarding the mental health of the individual that mental invalidism and dependency may not unduly increase the economic burden of society is being met by a rational effort to prevent the occurrence of these maladies, and mental hygiene in its relation to disease, a long neglected subject, fully as important as physical hygiene, is receiving the attention its importance merits. Infant mortality has been reduced and the span of human life definitely lengthened.

This remarkable advance in medical progress with its continually widening scope of beneficent activities represents a greater achievement in the past fifty years than in the preceding five thousand. If it has taxed the physician to keep pace with the phenomenal strides the profession has made it has been utterly incomprehensible to the mind of the lay public. Old customs, convictions, superstitions and beliefs are still retained. Disease to the lay mind is a mysterious and fearsome visitation that frequently sets the clock of human intelligence back a thousand years, and brings into active life blind faith in agencies of relief of mediaeval conception. The greatest problem confronting the medical profession today is the problem of public education along medical lines. This problem is such as may be met and solved only by a full cooperation between the public and the profession. The lack of this cooperation on the part of the public is due in part to the lack of understanding of the nature and origin of the diseases that afflict them, in part to peculiar faiths in which health and religion are closely allied, in part to the propaganda of the so-called drugless healers and nostrum vendors and in part to the indifference and sometimes unfortunately, the incompetence of members of the regular profession. An entirely frank discussion of these, demands that the weakness of the profession as relates to organization be considered.

The followers of the regular profession are in the main idealists; at all times their thoughts and efforts have been directed toward the scientific advancement of medicine, the results of which are shown in its unparalleled achievement in the past fifty years. As an organization for promoting



the material interests of its members our society's function and operation has been puerile, and as an organization for public enlightenment it has failed utterly. Its scientific aims and purposes have borne abundant fruit but from a standpoint of material benefit to its members it is lacking in staunch solidarity, in cooperation and in courage. As an agency for the dissemination of facts concerning the origin and rational treatment of disease whereby the public might be fully enlightened its efforts have been desultory and lacking in continuity. Absorbed in its problems of progression and achievement it has been oblivious to the fact that it is assailed from without by natural enemies who would profit by its discredit and from within by the aggression of agencies that threaten to greatly abridge its functions, impair its usefulness and eventually rob it of its independence.

For many years the regular profession has been exercised because of the invasion of its field by the cultist and irregular. Volumes have been written in arraignment of these and the falsity to their claims for recognition have been placed before the public. The conditions that permit of this encroachment might be briefly scrutinized. We must consider the fact that while practically every State in the Union has in connection with its University a Department of Medicine, that while the Nation is spending millions annually to promote the advancement of medical science, while private endowments of millions of dollars more are being added for the same benevolent purpose, while our institutions of learning as relate to the study of scientific medicine are becoming more and more critical and exacting as to the educational requirements for entrance, the type of student selected, and the duration of training for those who contemplate the practice of medicine as a vocation, that thousands of men and women are recruiting the ranks of the irregulars every year—and why? Because high preliminary educational qualifications are unnecessary; because it offers a short cut to an apparent source of revenue; because they are in most instances, due to lack of preliminary education, incapable of discriminating between the art of medicine as based upon proven scientific fact, and a pseudo science, (if it may be dignified by even this questionable title) supported and nurtured by propaganda and public credulity and because we are confronted in many states by the paradox of a commonwealth maintaining legitimate schools of medicine at public expense

while legalizing a charlatanry, the emptiness of whose claims to recognition is scientifically proven and established, and whose teachings and policies are diametrically opposed to the science of medicine as taught in schools of medicine maintained by the commonwealth.

While we note the fact that the Federal Government in all its branches of activity accords no recognition to the claims of the irregular in war or in peace, that Life Insurance Companies who gamble with us on the chance of our longevity or health, demand the opinion of qualified practitioners of regular medicine on the risks they assume, and that large corporations where the maintenance of a medical service is found necessary or advisable select those who have had the advantage of scientific medical training in regular schools, yet our government grants the privilege to immigrants from foreign countries to enter our ports without quota restrictions to enter the schools of irregular practice as students. In this situation we find the key to the existing conditions. It must be assumed in all cases that the recruits who yearly swell the ranks of the irregulars begin in good faith, entirely honest in a desire to enter what to them, appears a legitimate, legalized and honorable field, but without sufficient preliminary education to discriminate between true and false philosophies; that these people when undeceived, as they must be after a few months of training, are unable to realize on the time and money they have expended, as credits from these so-called schools carry no conviction of merit or competence to the officials of schools of regular medicine. Preliminary educational requirements can rarely be met by this class and there is no turning from the pathway except by the complete abandonment of their investment of time and money. Can we then wonder that the ranks of the irregulars are increasing year by year? The condition is not improved by the apparent malaise and apathy of the medical profession as an organized body to these conditions.

Another seemingly unfortunate hardship to the profession is the extension of Federal aid in the form of medical and surgical treatment to both ex-soldiers and civilians in subsidized hospitals under government control whether or not the disease or injury was of service origin and regardless of the ability or lack of ability, on the part of the individual to pay for such treatment, and the present contemplated extension of out-patient service to

these, which places the government in direct competition with the civilian members of the profession and demonstrates a trend inimical to the interests of the profession as a whole. And when it is further considered that this beneficence is at public expense and that we as citizens must meet this expense, and with the knowledge that the administration of Federal gratuities of this character are infinitely more expensive than an equal service rendered by State or Civilian agencies, we may reasonably question their wisdom and propriety. In effect, this form of aid reduces the recipient to the status of pauperism, in that he has no voice as to where or by whom his disability shall be treated, and the conditions of extension of this bounty are such as operate against its just disposition, inasmuch as many who are most needy and deserving are unable to meet them. The individual must leave his home, his friends and his employment for a period of indefinite duration to be transported to distant points at a needless public expense. Civilian hospitals and staffs are deprived of a legitimate source of income in the removal of these cases that could have been as effectually and far more economically treated in local environment. Aside from the injustice to the medical profession this procedure implies, its social, economic and political implications leave it open to serious criticism.

The first step in the correction of these existing conditions is obviously a closer and a more effective organization. The second to urge such legislation as will at all times and under all conditions safeguard the health and promote the material welfare of the commonwealth. Laws relating to the practice of medicine should be specific and definitely fix a standard of educational qualification—a single standard and that the highest possible of attainment. Today we are witnessing the spectacle of the irregular practitioner who by virtue of class legislation is exempted from the educational requirements and qualifications of the regular practitioner in medicine, yet is permitted to enter the field of medicine as sectarian or drugless healers, and without qualifications or adequate training, without a knowledge of the fundamental sciences, practice all branches of medicine and surgery, prescribing medicines, acting as accouchers, practicing surgery, posing as specialists in various lines, establishing hospitals apparently with public endorsement and consent, and the more lamentable spectacle of members of the regular profession who will counten-

ance, consult with, or operate for, this class of irregulars.

If these conditions are to be corrected the profession itself must no longer stand aloof wrapped in its mantle of self-righteousness. If the pitfalls of ignorance, misinformation and superstition that lie in the pathway of the lay public are to be avoided, that pathway must be illuminated by a careful and conscientious campaign of public education in the fundamental truths of health and disease. The regular medical profession only is capable of sponsoring and conducting this campaign and to that end the profession as a whole and as individuals should pledge themselves.

May I stress the point that it is not sufficient that we maintain our organization in fact, but that it must be maintained in efficiency. Its utter and complete dependency not only upon the County and District components but upon the individual members, must at all times be kept clearly in mind. The individual member must realize that before his Society, be it County, District or State, can render him a higher and more efficient service than it is now rendering, he must give to that Society more unselfishly of his time and effort. It must be remembered that the greatest asset of our Society is its virile hardworking membership who are willing to give unselfishly of their time and effort and if necessary of their means in the cause of solidarity and constructive organization.

Our liabilities are our membership who, though participating in the benefits of organization do not attend Society meetings, contribute to its programs, participate in its activities or work assiduously and in harmony with his fellows for the upbuilding and unity of its aims and purposes. When our assets are raised to the maximum and our liabilities reduced to a minimum, then, and not until then, may we hope to function in an effective and potent manner.

Perhaps that particular quality of inarticulateness—the inability of the profession to place its cause clearly and succinctly before the lay public may be responsible in some degree for the conditions now existing.

I quote you from a lay editorial of wide circulation, *The Saturday Evening Post*, of January 30th this year under the title, "Good News Suppressed."

"The tragedy of medicine and surgery today is the appalling amount of suffering, affliction and mortality which is definitely avoidable. The economic toll exacted by needless death and disability runs into the billions. Some of the life-insurance companies are making powerful and enlightened



efforts toward mass education in the essentials of maintaining the body in health and vigor. The physicians, however, despite the best of intentions, are contributing far less effectually than they might to the cause of preventive medicine. Their zeal for scientific advancement knows no bounds, but they forget that much of their newly acquired knowledge must remain barren until it has become common property and its significance has been grasped and realized. Even the commonplaces of modern medicine have not been universally taught.

\* \* \* \*

"Any adequate nation-wide program of popular medical education such as is here contemplated would involve heavy outlays both of brains and of money; but its importance and its benefits, both social and economic, would be so stupendous that there is small reason to doubt that if the doctors would supply the brains the business world would find the money, and the newspaper publishers would furnish the white paper. There is no novelty in the basic idea. Many leaders of the medical profession have long had it in the back of their minds, but while it simmers there it does no good to suffering humanity. The time has come to convert good intentions into action."

No organization can function effectively without financial endowment. It was found necessary at our last annual meeting to increase the annual dues to \$5.00 yearly in order to care for the growing needs and widening scope of the Society's activities. Some were opposed to any increase in our State Society dues. However, we believe that the results to be obtained will convince the most skeptical of the wisdom and necessity of this action. Those who were opposed to any increase in our State Society dues may be comforted by the statement that appeared in the Illinois Medical Journal to the effect that the chiropractors of Illinois in 1924 paid annual dues of \$120.00 a year or 24 times as much as the amount paid by the members of our State Society, and if the Society is to render to the profession and to the public the degree of service and the quality of service expected and demanded, it may be necessary to still further increase our membership dues.

I would respectfully recommend to the consideration of the House of Delegates the following:

1. Necessity for a more effective organization in order that certain clear cut indications be met and certain important functions stimulated.

2. A more extensive, better directed and better organized plan for public education along medical lines in which the County and District Societies should function in a more important manner.

3. An effort to prevent the direction of public health matters in which the Medical

Profession by virtue of its training should play a leading role, from passing into the hands of civic and lay bodies wherein the function and service of the physician is secondary and subordinate, or where he may be supplanted by the layman vested with the degree of Doctor of Public Health.

4. The wisdom of legislation legalizing the recognition of certificates issued by the National Board of Medical Examiners. I am advised that 31 States now recognize the National Board.

5. The wisdom or expediency of diverting all or a part of the fund for Medical Defense to purposes of public education in relation to health and disease. I am impressed with the belief that the present need for medical defense is not to defend the individual member against suits for mal-practice but to defend and protect the profession as a whole against the encroachment on the field of medicine by the irregular and secular practitioner who is qualified neither by education or training for the task he essays to perform, by a campaign of public education thoroughly and consistently carried out. By this method the profession may in very truth, be employing the most logical and effective defense against organized propaganda calculated to discredit the achievements of medicine and to mislead the public by specious claims unsupported by scientific criteria.

6. Physical examination of the apparently healthy as a safe-guard against disease of insidious onset such as cancer, heart disease, diabetes, etc. that seem to be increasing somewhat in frequency has been strongly urged by the National organization. Doubtless, such a plan would prevent many disasters by the early detection of these diseases in their incipient stages where they might be amenable to successful treatment. Such a measure is strongly advocated by leading insurance companies. We do not know, however, that the public at this time is prepared to consider the advisability or necessity of these. This thought is suggested to the House for their consideration.

7. There is no present indication that the output of reputable medical schools is insufficient to meet the public demand. Better roads, telephones, improved methods of transportation and local hospital facilities have made it possible for the doctor to cover an increasingly wider territory and conversely permits the ambulant patient to travel considerable distances to obtain the service or advice of the physician of his choice. The quality rather than the quan-

tity of medical service given the public is a matter of deep concern to this organization. The present high standard required will give to the nation a correspondingly high standard of future service and the present trend toward specialization may be construed as the logical acquiescence to a public demand. Impoverished members of society will never suffer. The profession is generous in its gratuitous service to these. It is conservatively estimated that the profession of the United States bestows in free service to the poor over 36 million dollars yearly and the physicians of New York City contribute an estimated free service of 16 million dollars annually to the poor of that city.

8. I would urge on the House of Delegates the duty of the profession of the State to foster and assist in every possible way the development of medical education within our own State. The County Society and the individual member as well, may do much to convince the legislator from his community that the paltry sums grudgingly doled out are entirely inadequate to permit of the proper expansion and development of this department of our State University. We are aware that the Medical Department of our State Universities throughout the nation are severely taxed and are able to matriculate only a minority of the applicants for medical training.

The hope of an endowment from any private source for our Medical Department is predicated largely on the attitude of the State to that department and unless the State, as an earnest of our good intentions and determination to place our medical department on a high plane of efficiency, can be brought to a realization of the necessity for a more liberal attitude and adequate appropriations in keeping with the present vital needs of the department provided, and unless a definite and fixed policy of administration is adopted, the hope of a substantial endowment from private or individual sources is remote.

In conclusion, let us hope that in the present meeting of our House of Delegates something constructive and forward looking may be accomplished, that we will not assemble and submit to desultory discussion the problems now confronting us, perfunctorily discharge the routine of business, appoint a few committees and adjourn to congregate next year at the designated wailing place and repeat the same futile procedure, but that we shall endeavor at this time, to lay the foundation of a broader

sphere of activity in public usefulness, imbue our membership with zeal, courage and cooperative spirit to carry on, that the highest ideals of our calling may be realized, the highest humanitarian service rendered and the profession of medicine maintained on the exalted plane of beneficent endeavor that in the past, has earned the gratitude of the world.

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### Our Novitiates

FLORENCE BROWN-SHERBON, M. D.\*

\*Address as retiring president Kansas Medical Women's Association. The Association entertained the women students about to graduate from the Kansas University School of Medicine.

It is a rare satisfaction to address my official "Swan Song" to those who follow after and reinforce our ranks. It would not be human to miss such a prime opportunity to "advise". It is also natural to wish to encourage; it were kind to warn. From the sophisticated vantage ground of the sunset side of the golden milestone of life, I shall proceed to subject you to this triune infliction.

I am trying to visualize your future. Few as you are, you present an interesting variety of temperaments, capacities, and objectives. What can we say to help you? Fortunately, many of your immediate difficulties will adjust themselves. The great physician, Time, will bring you safely thru your first and greatest handicaps of youth and inexperience. You will also live thru your struggle for economic survival, altho you may have periods of doubt!

There are, however, certain larger adjustments to be made which are vital to happiness and success, and it is of these I wish to speak. Many conditions will change you will lose youth and inexperience and acquire a sustenance (we hope). Two things, however, you can never lose, and these are your *femininity* and your *personality*. Success and happiness are conditioned by these, both in the way of limitations and opportunities!

You can never get over being women, therefore it were seeming to consider what it means and might mean, to be women in medicine. It is to be hoped you will never get over being just yourselves, therefore, it will pay to study carefully the interests and capacities you bring to human service and seek the fullest possible expression for these, and above all, never try to be anything else but just yourselves and just women.

You, fortunately, come upon a period in



which we, as women, are talking less about our "right" to prove that we can do the things men do as well as men are doing them. We are talking and thinking more about what women, *as women*, should contribute to human thought and welfare. The world will neither be enriched nor changed if women are content to do and think only as men do and think. What the world does need is the injection of woman's quality of thinking, doing, and feeling into human affairs.

Lacking experience and traditions, we as women, have often been frankly imitative and (also frankly, may we not acknowledge) a little arrogant in finding our work and our place in the new world. This is one factor in the sex prejudice complex of recent and even present memory. We may well ask ourselves (also frankly!) if we have not sometimes crudely revealed our limitations in our effort to discover our specific strength? This was perhaps logical and inescapable. There were no places, there were no tools other than those we wrested from the more or less willing male occupants of the field. May we not permit the gentleman in question to entertain some human resentment even tho he sometimes expresses this in a rather crude and elementary way, particularly in view of the fact that we could not humanly shed at once our age-old sex privilege complex and, in a sense, we not only expected him to step aside and bow us into his field of effort but to do it with his hat in his hand.

At the present time women have sampled every type of medical experience. On the whole, I will hazard the opinion that we have not colored the field of medical science and practice very definitely by our presence. In proportion to our numbers, I will also venture the guess, that not far from the same percentage of us really arrive and achieve outstanding success as that obtaining among our medical brethren.

We have Alice Hamilton, Bertha Van Hoosen, Alice Dick, Rachelle Yarros, Josephine Baker, and many others who are recognized with deference in the men's medical world. There is no reason why we may not continue to hold up our end. If this were to be all women accomplish in the field of medical effort, we might feel justified but—I think—not satisfied.

To my way of thinking, women have an obligation to contribute something new to the situation. Something new in the way of new lines of thought and effort, but also somewhat of new emphasis and new values

in the established ways of doing all medical work.

Our versatile and voluminous H. G. Wells makes a scientist in one of the new books say to a modern young woman: "You'll never run parallel with men, you free women. You've got to work out a way that is different. Different down to the roots." Is this not the gist of the woman movement, the true philosophy of feminism? First, we had our struggle for individualism; now we must learn to express that individualism. As I see it, our handicap at the present time is that we lack somewhat of courage to express our real interests and our real personalities, our feminism, if you please, in terms of our vocation. Perhaps it is not lack of courage so much as failure to discover that this thing can be done and that it is worth the doing.

In the May number of Harper's Magazine, Elizabeth Shepley Sergeant has given us a classic in the way of a biographical sketch of Dr. Alice Hamilton, a woman who, as a resident of Hull House, became interested in industrial poisons thru her personal contact with many industrial victims and their families. Miss Sergeant has summed up, in her characterization of Dr. Hamilton, a fitting ideal for scientific women of every sort. "Consciously or not, the intellectual and the detached aspects of Dr. Hamilton's mind have increasingly served the more instinctive feminine side, and the intuitive being she harbored almost unawares in the early years has from the beginning seemed impelled to make her a persuasive rather than an assertive innovator; a conservationist, a guardian of the race." The significant thing is that service to her race urged her on to become a world authority on industrial poisons and created for her a chair in Harvard Medical School, the only position on the Harvard medical faculty to be held by a woman, and also placed her upon the Health Committee of the League of Nations, again the only woman member. Miss Sergeant further says of Dr. Hamilton. "She was not born a reformer, tho she may have been born with a scientific spirit. . . . Her career has followed the gradual evolution of a mind that primarily sought knowledge, and finally, out of deep, out of earnest, out of piercing conviction, sought to share its knowledge and make wisdom prevail," and again, "It is probable that only a woman could have done Dr. Hamilton's job. Always she has had to make her way by tact, persuasion, patience, intuitive imagination, rather than by authority." And yet again: "Somehow her earnest, unsentimental, cour-

ageous speeches manage always to convey a sense of the preciousness of every human life. Stop a minute, the undertones command. These statistics I am giving you are not marks on paper; they are men and women, fragile creatures of flesh and blood. See what you are greedily and uselessly destroying."

This interpretation of an outstanding representative of the new woman in science expresses, to me, the essential role of women in the scientific world. We should be able to make contributions to exact science, and here and there we are so doing, and to a few women this is sufficient. But above all, I believe it is woman's part to "be the guardian of the race", to vivify science with sentiment, as Dr. Hamilton has done. To "express emotion in the rigorous terms of science". The way in which our clean-cut obstetrical scientist, Dr. Rachelle Yarros, is touching the while problem of racial perpetuation with the white light of emotional intensity is a similar case in point.

When women first entered medicine, it was thought that they thereby lost their tenderness and sympathy and became hardened to human suffering. What is happening is that women laboratory specialists are starting ardent milk campaigns. Women pediatricists are fostering milk stations and child health clinics. Women obstetricians are giving their services to maternity homes and promoting better marriage laws. The general practitioner often finds herself doing a high type of social case work. Not but that medical men are also doing these things, but not often with the same intensity and singleness of purpose or the same willingness to sacrifice personal interests, and never with the women's intuitive feeling for the need. It inheres in the nature of woman to serve. Untold centuries of natural selection have bred this into our bone and marrow, and a similar number of centuries have written it into our traditions and customs. Let us not resist our destiny. Let us see in medical science our field for wider and more effective expression of the same kind which has always come natural to us.

I have spoken only of the regular medical fields because I think it is not quite so easy to see that these do furnish opportunities for emotional expression and human service. It is easy to see that public health work does this. And here I want to call attention to the fact that only a small part of the 48 state divisions of child hygiene are headed by women not nearly all colleges and uni-

versities have women health advisors and examiners. More women should be entering child hygiene work. More women should be specializing in school health work. More women should be entering the Schools of Public Health, both as students and teachers. This is coming, however, but we can all hasten the day by vocational council to the girls we know who have the capacities for any of the varieties of public health service.

In closing, I want to lay upon the hearts of all of you the obligation to further obstetrical research. What more fitting contribution could medical women make to the weal of their kind than to establish a nucleus of research which might grow into a foundation with the one purpose of working out the factors of a norm in child bearing, and follow this with organized scientific attack upon the factors of suffering and danger which now lay so heaby a burden upon our civilized women? We can accept with some degree of complacency the fact that dissolution should be a distressing experience. We should resent with concentrated intellectual and emotional intensity the fact that anything as natural, necessary and inevitable as birth should be accompanied by far greater agony than that of death itself and so frequently bring death in its wake. I am confidently expecting our great body of fine, intellectually alert and emotionally alert medical women to concentrate upon this as their one greatest scientific issue. Perhaps one of you will be the one to voice the call to concerted effort.

There are many other things about which I might advise, warn and encourage, but time forbids even the mention of more. For your encouragement, let me say that I envy you your rich opportunity of living and sharing in the realizations of the next fifty years. We who have a memory span of so great a reach have seen great things come to pass. These were only the first days of a rising sun. You will see somewhat of its full glory. You are coming into a rich inheritance left by the Blackwells, Zahrzewka, Jacobi, and many other staunch pioneers, who secured for us our right to function as free individuals. It now remains for us to turn this right into achievement, and especially to make these achievements different, even as woman are different, "right down to the roots." I believe the time is ripe and our numbers and influence sufficient for us to begin to really color the situation in the medical world, not aggressively or offensively, but by the pouring in of an intellectual and emotional elixir



of a new and vital sort. This can come only through organization, sharing of ideas and ideals, and concerted action in the directions indicated by mass sentiment.

The members of the Kansas Medical Women's Association, few as we are, are finding somewhat of help and encouragement in our association together. As a final item of advice, let me urge you to join with or start a medical women's organization wherever you locate yourselves. Not for producing a demarcation from the regular medical group, but for the purpose of working out together the specific contributions women have to make, and discussing specific problems, just as surgeons, internists, and urologists meet together. Let me urge upon you the equally important obligation to join and participate in the activities of all medical societies, local, state, and national. This is an essential safeguard against narrowness and prejudice, and the one best agency to professional, intellectual stimulation.

We hope you will not forget this small group which is "wishing you well" tonight and that you will feel impelled to report to us from time to time. You may be assured we will always be interested in you and be ready to serve your interests in any way we may.

God speed you on your way!

— R —

### Varicose Veins and Ulcers of the Leg

L. F. BARNEY, M. D., Kansas, City, Kan.

Read before the Northeast Kansas Medical Society, at Lawrence, Kansas, March 25, 1926.

In selecting a subject so trite, senile and decadent, a word of explanation is due.

The subject of Varicose Veins and Ulcers of the Leg was selected by the author on account of his personal interest. He hopes you will not accuse him of being unethical and a charlatan when he tells you that the first medical work he ever did was along this line and that he specialized in their treatment earning his way through high school when he was a mere boy. This was before the days of the door bell and many a night he was awakened from a sound sleep by the terrible pounding on the front door. A few minutes later he would hear his father say, "Son get up and hitch up the team" and away they would speed through mud, rain and snow to give relief to some poor soul suffering from cramp colic or perhaps the pains of labor. You see his father was a country doctor, who on account of feebleness from varicose ulcers required a driver and the writer earned

his board by attending him and his legs. As far back as his memory goes his father was an invalid or semi-invalid on account of varicose veins and he cannot remember the day when his father did not spend a part of it in dressing his legs, using elastic bandages, elastic stockings, flaxseed poultices, zinc-oxide ointment, etc., etc. He would also estimate that during that time his father was confined to the bed 10 per cent of his days on their account. Furthermore he believes that, had they known how to treat them as we do now, his legs could have been permanently cured and all of that suffering been avoided. Is it any wonder that this subject has been particularly interesting to the author?

When the writer served his internship, nearly a quarter of a century ago, the most frequent surgical dressing the interne had to make was for varicose ulcers. Today in the same hospital there are very few of these cases.

While I am quite sure none of you have any of these neglected cases and there is probably very little need for this paper, for there is very little in it that cannot be found in other writings, nevertheless the author has chosen this subject. It is a resume of the subject combined with practical and personal experiences.

Varicose veins are chronic permanently dilated veins due to changes in their walls. The principal veins so affected, in order of their frequency, are hemorrhoidal, saphenous, spermatic and those of the broad ligaments.

The symptoms and treatment are best understood by studying the pathological changes as they occur. The first change is a venous stasis due to the back pressure which stretches the lumen so that the valves are incompetent. This brings about degenerative changes which produce a sclerosis of the veins, similar to an arteriosclerosis, producing first a thickening and hypertrophy of the media, there being an increase of the muscular and elastic fibres to compensate for the increased intravenous tension. This is followed by the atrophic stage in which the muscular and elastic fibres disappear and the valves shrink up leaving the veins as inelastic or fibrous tubules. As the disease progresses the fibrosis spreads to the perivascular sheath and connective tissue producing adhesions of the affected veins to the surrounding tissues. If, prior to the perivascularitis, a portion of the wall gives way, a sacculation will occur and we have a varix. If this varix

becomes large and the base becomes strangulated we will have a blood cyst. If the fibrous tissue contracts down on the hypertrophied intima, obliteration of the lumen of the veins will occur and it becomes an inelastic cord. If thrombosis occurs it is likely to be followed by calcium infiltration and we have venous calculi or phleboliths. As a result of the sclerosis the vessels are lengthened and may become tortuous and convoluted and frequently intercommunicate.

Other tissues in the vicinity of the veins also become affected; the arteries become sclerotic; the vessels of the nerves become affected causing neuralgia; the skin undergoes trophic changes and becomes eczematous. At first thin and hardened the skin becomes adherent to this subcutaneous tissue and aponeurosis, involving at the same time the lymphatics causing a secondary edema and hypertrophy of the corium. The degenerative changes may extend to the muscles producing an interstitial myositis, likewise the bones may become affected and undergo rarefaction and at times a hyperplasia. (Matas-Keens *Surgery* Vol. 5-P. 153).

**Etiology.** The causes are various. A few cases are congenital, but most of them are accounted for on anatomical or physiological grounds. The saphenous veins lie in the loose subcutaneous tissue covered only by the skin which has not the power of contracting. In the upright position of man, the blood from the legs has to be carried upward, more or less vertically, to the heart a distance of several feet. Venous circulation is produced by the vis a tergo, contractions of the minute capillaries, aided by the elasticity of the veins and the compression of the surrounding muscles. As stated above the long saphenous vein is not surrounded by muscles and when stasis occurs the elasticity of the vein is soon lost. The intravenous pressure also is increased by the normal abdominal contractions and venous stasis frequently begins in young or middle aged adults when the individuals are active and especially those who remain in the upright position for long periods of time and do heavy lifting as washerwomen, track laborers, etc. Large abdominal tumors, and portal obstruction with its various causes, increase venous tensions and are etiological factors. Pregnancy in itself, aside from the pressure of the enlarged uterus, is said to be an important factor. Likewise is general arteriosclerosis where the veins are involved in the sclerosis producing a phlebosclerosis.

## SYMPTOMS

These depend upon the pathological changes and may be none, or any, or many, of the following: Large distended veins may produce a heavy tired feeling in the legs. Neuralgia is a result of the sclerosis involving the veins of the internal saphenous nerve which accompanies and is intimately associated with the long saphenous vein of the leg. Swelling is due to the perivascular changes, especially when the lymphatics are involved. Hemorrhage results from rupture of the superficial vessels, while acute phlebitis, with its accompanying red streaks, follows thrombosis.\* Acute pain, erythema, increased local temperature, edema and swelling probably accompanied by rigors and fever is a cellulitis which may result from slight abrasions of the skin with the lowered resistance. Diminution of the size of the leg, and even fallen and painful arches, may be a part of the atrophy and myositis. The skin especially over the junction of the lower and middle third of the anterior and middle surface of the leg may be thin and glistening or thick and rough, with increased pigmentation producing dirty brownish spots and may be the seat of a moist or dry eczema.

The condition which most frequently causes the patient to seek relief is ulcer. These occur at the sites where the skin has been affected and are a result of trophic changes which cause a disappearance of the subcutaneous fat and permits the skin to lie proximal to the bone. Resistance is at low ebb and a slight abrasion or traumatism starts a local erosion which spreads irregularly, laterally and in depth frequently extending several inches wide nearly encircling the leg and penetrating almost to the bone. At times there are more than one ulcer, but never distantly separated.

## DIAGNOSIS

This is made from the above symptoms combined with inspection after the patient has been on his feet for some time. The prominent enlarged elevated veins, either straight or tortuous, extending along the inner side of the thigh and the anterior and inner surface of the leg, with or without the presence of an ulcer, is diagnostic.

Treatment is either palliative or curative. The palliative consists of using those measures which tend to relieve the tension on the veins and best of all is rest and elevation of the leg by putting the patient to bed and supporting the leg and foot by several pillows. As this treatment cannot be continued indefinitely other measures have to be



used as properly applied elastic bandages, elastic stockings or, what I consider best of all, a cast prepared with Una paste, all of which must extend from the ball of the toes to just below the bend of the knee.

Elastic stockings are objectionable because they frequently never fit and if they do fit it is only for a short period of time because either the leg will swell or subside or the rubber stretches or gives way at different places. Occasionally the stockings shrink and become too tight. If they do not produce a uniform equal pressure along their entire extent they may do more harm than good.

Elastic bandages are troublesome, time consuming and require considerable training to apply them so as to make and keep equal pressure along the foot and leg.

Una paste is made by heating ten ounces of distilled water in which four ounces of sheet gelatin is dissolved; when the gelatin is thoroughly dissolved add ten ounces of glycerine and while the mixture is still hot add four ounces of zinc-oxide. This keeps almost indefinitely and when heated over a water bath makes a thick white paint like liquid which is applied to the leg with a paint brush over which several layers of thin gauze bandages are applied. Over this a heavy muslin bandage is applied which is not painted. This makes a perfect-fitting flexible cast which is worn day and night and kept on for weeks. The longest I have ever had one to remain constantly was fifteen months. The advantages of the cast is that it always remains the same size and if it is properly applied, fits at all times. Furthermore, as Ochsner said, it massages the leg which is a very beneficial procedure in stimulating its nutrition.

When there are infected ulcers, a moist mild antiseptic dressing, (I prefer a 1 to 4,000 solution of mercury cyanide) should be applied for two or three days after which strapping the ulcer tightly with overlapping strips of adhesive plaster 3-4 inch wide, encircling the leg three-fourths of the way around, with rest and elevation of the leg will cause them to heal rapidly after which the supportive treatment may be used.

Paliative treatment should be used:

1. In people who are so feeble from age or other disease that an operation is not advisable.

2. Individuals with portal obstruction from cardiac or hepatic disease.

3. Those with large inoperable abdominal tumors.

4. Those in which the deep veins of the legs are occluded.

All other cases should have the radical or curative treatment which occludes the circulation of the long saphenous vein and throws the superficial venous blood into the deep veins.

#### ANATOMY

Before taking up the operations that have been used, a few words as to the anatomy may not be out of place.

The venous circulation of the leg and thigh is carried on by a deep and a superficial set of veins, both of which may be involved in the phleboscclerosis but on account of the support given by the surrounding muscles, the dilation of the deep veins causes little or no harm, while the superficial veins lie just under the skin and their walls have no support except the slight amount given by the skin and subcutaneous tissues, and the conditions described above result.

The superficial set of veins consist of the internal or long saphenous and the external or short saphenous and their branches.

The external saphenous supplies the outer and posterior surface of the leg, but it is only superficial below the knee. In the lower part of the popliteal space it perforates the deep fascia and terminates in the popliteal vein between the heads of the gastrocnemius muscle. Before it perforates the deep fascia it gives off a communicating branch to the internal saphenous.

The internal saphenous vein begins in the venous arch on the dorsum of the foot and passes upward in front of the internal malleolus, then along the inner posterior edge of the tibia, accompanied by the long saphenous nerve, then along the posterior border of the inner condyle and up in an almost straight line to the saphenous opening one and one-half inches below and to the outer border of the spine of the pubes, where it empties into the femoral vein. It is superficial all of the way.

#### INDICATIONS FOR OPERATIONS

These are very beautifully expressed by Matas of New Orleans whom I will quote. He says they are "(a) To arrest the hydronic reflex of the column of venous blood into the superficial veins, when the valves of those veins are incompetent and the varicosities accompany, or depend,

upon progressive intravenous tension; (b) To force the more superficial venous circulation from the less supported subcutaneous veins into the deeper more supported muscular trunks when the latter trunks are not involved in previous disease; (c) To entirely and permanently remove incompetent or diseased venous trunks; (d) To make impossible the entrance into incompetent superficial veins of blood from deeper intra muscular veins by obliterating, in large part the communicating branches while in the act of excising the superficial trunks."

There are several tests which may be used to prove the patency of the veins. Trndelenburg's test is one of the most practical. In this "The leg is raised above the level of the heart until the veins are empty; it is then rapidly lowered, where upon the blood can be seen to flow back into the leg and suddenly distend the vessels."

If while the vein is collapsed, the examiner makes firm pressure over the vein at the saphenous opening, just where it empties into the femoral, and at the same time the patient is instructed to stand up, the vein will continue empty until the finger is removed, when it will quickly fill up by a reflux of blood from above downward, and not, as in normal conditions from below up.

Chas. Mayo's test for operability is to apply an elastic stocking or elastic bandage from the toes to the knee. If this can be worn with comfort, an operation will probably give relief. If it produces discomfort, it is probable that the superficial veins are necessary to the circulation of the limb.

#### OPERATIONS

There are many operations for the relief of varicose veins. Bickham's Surgery, Vol. 2 describes the following:

1. Phlebectomy—Excision of the entire vein from the saphenous opening to the ankle by operation and then suturing the skin.

2. Open excision of parts of the long saphenous and connecting branches at intervals.

3. Trendelenburg's; ligation of the long saphenous near the saphenous opening and excising two or three inches.

4. Sched's; a circular incision around the upper part of the leg over the anterior, internal and posterior aspect and ligating the veins encountered.

5. VonWetzel's; includes with Schede's

a second circular incision around the thigh at the junction of the lower and middle third.

6. Reindfleisch and Friedel; spiral incision of five to eight times around the leg after having divided the internal saphenous at the middle of the thigh. The spiral incisions extend down through the deep fascia and the wound is not sutured, but packed and allowed to heal by granulations leaving a spiral trough.

7. Babcock uses an olivary tipped long stilet which he inserts into the vein and pulls the vein out by having a larger tip at the other end of the stilet which will not go through the vein.

8. Manourian; uses the same process as Babcock, except he ties the proximal end of the vein to the stilet and inverts the vein as he strips it out.

9. Delbet; anastomosis of the internal saphenous to the femoral vein four or five inches below the normal level of union, using the stronger femoral valves to replace the incompetent internal saphenous valves.

10. Katzenstein bases his operation on the supposition that the varicose condition is a result of imperfect muscular support and he dissects out the vein and surrounds it by suturing the sartorius muscle around it forming a muscular canal.

11. Chas. Mayo Operation.

I will not mention the injection method only to condemn it here, and in hemorrhoids, as unscientific and dangerous.

Mayo's (1900) uses a ring tipped enucleator and ring tipped enucleator forceps. In this he makes an incision over the long saphenous at the saphenous opening ligates and bisects the vein and then threads the vein into the eye of the enucleator and by making tension on the vein with the hemostat by a rotary motion tears off the branches and strips out the vein to near the inner condyle. He then makes a small incision over the tip of the enucleator and grabs the vein and withdraws the enucleator from the first opening. The vein is again threaded and the enucleator is passed down over the vein to just above the inner malleolus, where a third incision is made and the vein and enucleator removed as before, and the wound closed. Since his original description of this operation he has combined it with the Schede operation. Plain gauze dressing applied and held with strips of adhesive and the limb including the ankle finally bandaged.



The patient is kept in bed till the wound is healed and then required to wear an elastic bandage from six weeks to six months.

This is the operation the writer desires to recommend, except he prefers the use of the Una paste cast as described above in the palliative treatment. He also wants to emphasize that the long saphenous vein be ligated very near the union with the femoral, for there are frequently one and occasionally two large branches which empty into the long saphenous near this point and if they are not included the results will not be so good. Again he wishes to emphasize the necessity of wearing the support for a sufficient length of time, at least six months after the operation. Many of the poor results done among his early cases he attributes to the failure to observe these two points.

#### RESULTS

Balfour in 1915 reported 161 cases, none of which had been operated less than one and one-half years, with the following results: There were 93 uncomplicated with ulcer and 68 with ulcer. 39 (47.4%) of the 68 having ulcer were cured; that is, the ulcer had healed, the veins had disappeared, there was no swelling of the feet and the patients were able to carry on their work without pain; 16 (23.6%) reported great improvement, the ulcer having healed in the majority, but minor complaint of occasional swollen feet after a long days' work, or of some aching in the legs: thus 80% were either cured or improved. In 13 (19%) the results were definitely unsatisfactory. The ulcer had either failed to heal or there had been periods of complete healing, then pain and swelling sufficient to make the prolonged erect posture uncomfortable. Elastic bandages kept some of these patients in a fair degree of comfort, but the operation itself had failed.

In the 93 patients without ulcer better results were obtained: 67 (72%) were quite cured, 16 (17%) were improved, while 10 (11%) were unsatisfactory so that in practically 90% of this group the results were good.

He further says, "The causes of failures in the series may have been due in part to the selection of cases, incomplete operation, or lack of care in after treatment." He also reports two deaths, (.7% both from pulmonary embolism in 256 cases.

The writer has fortunately had no deaths, but his most common complication was failure in primary wound healing over

the Schede incision due to the poor circulation around the wound. This, while it has done no permanent damage and possibly good at times, has lengthened the period of morbidity and kept the patient a longer time in the hospital.

#### The Metropolitan Medical School of the Future

C. F. NELSON, M. D., Lawrence, Kansas

It may today be set down with a considerable measure of certainty that the training of young men and women for the profession of medicine and surgery has definitely passed out of the control of privately owned and operated proprietary schools and into the hands of our larger state and endowed universities. In 1900 there were one hundred and sixty medical schools in the United States. All but a few of these were isolated private schools in no way connected with other departments of professional or higher education. Last year, at the end of the first quarter of the century, there were only eighty medical schools in the United States. Of the seventy-one grade A schools in operation at the present time all but six have university or college affiliations.

The incorporation of medical schools in the larger and more comprehensive system of university organization marks a significant advance in medical education in this country. Concentration in education has finally come to be recognized as being of as great importance as concentration in business and industry. It can be shown to be profitable from an economic point of view and even more so from the standpoint of educational accomplishment. Someone has very aptly said that education is one-half environment and in a real sense this is true. It is for this reason that concentration in professional teaching is so desirable and important a matter to achieve. A very able physician when asked recently what he thought of the ability and professional prospects of a certain young physician replied, "He is a bright young man, but he never will become a great physician. He never inquires why the sun sets or the moon rises." Our young men and women who are to practice medicine in the future need more than ever to be informed about nature and her operations, about man and his place in the universe. The very best and most profitable training for medicine is that which is the least technical and professional. For health comprehends more than freedom from demonstrable disease; it means nothing less than a complete and happy co-

ordination of all of man's mental faculties and physical possibilities. The longer the medical student can be kept in contact with thought that is indirectly related to his future profession, the more general information he absorbs, the better physician will he be in later life. For these reasons if for no others the undergraduate belongs on the university campus in as direct contact as possible, while pursuing his own studies with knowledge that is not directly his own; in contact with such subjects as painting, music, philosophy, ethics, history, sociology and economics. If for practical reasons he can not be kept on the campus until he graduates, every effort should be made to keep him there as long as is possible.

With the advent of the university school of medicine, the medical sciences lost a great deal of the isolation that had previously characterized them. The educated man of today thinks of them largely as applied physics, chemistry and biology which they really are. There arose also quite naturally at this time, a desire on the part of educators to begin the teachings of these subjects on the university campus in as close a contact as was possible with other arts and sciences. Unification of faculty and student groups not only effect economy in operation, but makes possible a better environment and better intellectual activity. Wherever, therefore, concentration of this sort is at all practically possible to effect it will, from a university point of view, be a highly desirable change to carry out. While this point of view is still vigorously opposed by some excellent clinical teachers and very able physicians, who still feel that clinical teaching, for either the graduate or the undergraduate, is best carried on in the large city, the statement may be safely and conservatively made that clinics sufficiently large and varied, at least for undergraduate teaching, have been assembled and operated in small cities now for more than a decade.

There is another important reason which will probably in the future operate in locating undergraduate medical schools on the university campus rather than in the large city. The tremendous advances in knowledge made yearly in the various fields of medicine have already made it evident that the teacher in the undergraduate courses, particularly must devote all of his time to routine teaching and research. The demand for full-time teachers in the clinical subjects has but begun. A decade will witness remarkable strides along these lines. The opinion may be safely ventured that

the strength of an undergraduate medical school in the future will be measured largely by the full-time faculty which it employs. This means that wherever the undergraduate school is located there will be a small faculty composed essentially of teachers and research men. The clinical professor of today must therefore be prepared to surrender either the greater part of his practice or his position. And this condition will obtain whether the school be located on the campus or in the large city.

No greater misfortune could happen to medical teaching than this. It would be nothing less than a calamity for medicine to be deprived of the service of this group of excellent men. Our greatest clinicians have always been our greatest teachers. Many have in the past and are at present giving ungrudgingly not only of their time but of their private income to help make possible a richer and finer medical education for those who are to follow them. Their services can not be dispensed with. If in the future concentration on detail and theory compels full-time teachers for the undergraduate no such restriction need apply to the post-graduate. He, above all others, needs the stimulus and experience, the freedom from teaching routine which the practicing specialist can best give him. The specialist must at all costs not be eliminated from the teaching field because he does not devote himself exclusively to education work.

But what of the medical school of the metropolis—the off-campus, large city school of medicine. Is there room and need for medical departments in our larger centers of population or should these be abandoned when they are not directly connected with the university campus?

There has always existed a strong feeling in the minds, both of physicians and laymen, that the proper location for a medical school is in the large city. Here may be found the poverty that makes a large experimental and teaching clinic possible; here are located the slums in which disease is apt not only to be abundant but varied; here the specialist, the expert in medicine, the ideal clinical teacher is most likely to be found. Indeed until quite recently it has been considered impossible to conduct clinical teaching successfully in any other place. If, however, the university medical school has come to stay; if environment really is a factor in education; if unification of faculty and student groups eliminate duplication and effects economies in operation; if full teaching is in the future to supplant



part-time teaching by specialists devoting the great part of their time to private practice, then the undergraduate medical departments belong ultimately on the university campus. A change of this sort may take decades to bring about. It need not be hurriedly effected. It will come best as a product of normal growth and necessary development; upon a full realization on the part of a large majority of the profession that this is the best thing to do in order thoroughly to train future students in the ever-increasing complexities of the modern medical sciences.

The ultimate location of the undergraduate medical departments on the university campus by no means disposes of the problem of medical education. There still exists the very important matter of post-graduate study and medical review. This field can today by no means be ignored by a progressive university. More than half of the grade A medical schools already have post-graduate departments in actual operation. The latent possibilities of graduate study in medicine are of even greater importance than in undergraduate study. It will in the future, in schools favorably located, far outstrip the latter. A physician coming back from an active practice for a period of study does not thrive in an atmosphere of undergraduate study. He needs the less directed life of the graduate. He wants the advice and help, the practical knowledge of the successful specialist. Precisely here lies the justification for post-graduate departments in our large centers of population. Here is a fundamental reason why some medical teaching and study should always be carried on in the large city away from the academic concerns and activities of the university campus. We must look to the altruism and professional devotion of our prominent specialists for the economic and successful establishment of great regional metropolitan post-graduate departments in medicine, surgery, obstetrics, gynecology and the specialties. Here is a new and important field to develop; here the next great step in medical education will be taken.

For the past two years there has been a great deal of interest shown, particularly on the part of the profession and the alumni of the school of medicine, in the creation of a larger and better medical school in Kansas. No one can deny that there is urgent need for developing medical education in the state. As a commonwealth we cannot escape, nor would we if we could, the responsibility of doing our share in training the men

and women who are to keep safe the health of future generations in our country. Intelligent laymen are as eager to help advance medical education as are thoughtful members of the profession, but they instinctively look to us to take the initiative in these matters and to provide for them a mature, altruistic leadership absolved from personal and professional bias. Perhaps it is unwise for the profession to prescribe or offer counsel in its own case and cause, and yet after all, who else can speak with better knowledge and more authority on the many technicalities that are involved?

We have, in Kansas, at the present time, a school of medicine, which, while small and as yet undeveloped, commands the respect of medical educators throughout the country. Upon this foundation the larger structure can well be built. The problem of selecting the proper location for the medical school will first of all have to be solved. Not only must substantial agreements as to location obtain within the ranks of the profession, but what is even more important for future growth and legislative support of medicine is a state university, interested citizens and university alumni—the powerful party of the second part—numerically far greater than the profession, must be able whole-heartedly to give their sanction to the recommendations we make. In no other way can the problem of location be satisfactorily and permanently settled.

For some peculiar reason or other, we find great difficulty in discussing dispassionately the topic of the proper location of the medical school. Heat and partisanship at once grasp us and obscure the real issues involved. We dig in, metaphorically speaking, and refuse to surrender. Some even go so far as to threaten to wipe out the entire future of the medical school if things do not go in a certain way. These differences of opinion are however, to be looked upon as expressions of vital interest and concern for our medical school and are much to be preferred to a general feeling of indifference and apathy. They are indicative of health and desire for progress, and need cause no one any alarm. But is there any real need for opposing points of view? Can we not construct a program that is big enough to include and reconcile any differences that may exist? I think we can.

There are three possible practical locations for the school of medicine, and only three. One is a united school on the university campus at Lawrence; a second, a united school entirely off the campus at Kansas City, Kansas; a third possibility is a divided

school located, one half on the university campus at Lawrence, the other half at Kansas City, Kansas.

There are many good reasons why a united school is desirable. The arguments are so well known that they need not be reviewed at this time. The fact that the best authorities on medical education endorse the united school, at least in principle, is perhaps the best single argument that can be advanced in its support. We must not forget, however, that there are legitimate and necessary exceptions to all arguments, rules and practices, and that progress results very often only when reasonable exceptions are made. The real trouble at Kansas lies not in our failure to agree where the medical school shall be located, but how inclusive and comprehensive our program of medical education really shall be and how patiently we can wait for the practical realization of these ends.

Last August, the Council on Medical Education of the American Medical Association reported that there were, in all, some eighty odd schools of medicine in the United States. Seventy-one of these were grade A schools. Over half of the grade A schools (37) had at this time approved post-graduate departments in actual operation. We must not forget that the next significant advance in medical education will be in post-graduate study. With the multiplication of knowledge both in theory and practical application, the busy practitioner cannot keep abreast of the times without going back to an educational center now and then for review. His purpose and outlook in coming back are entirely different from those of the under-graduate who is about to make a beginning in life. The older man needs social diversion as well as new technical information and both of these he can secure best in the large city. Here too he can meet a larger number of specialists, men of distinction in the more practical aspects of medicine. A post-graduate department where review is an important feature is sure to be more successful away from the exacting routine of under-graduate study than in its midst. Here too, the clinical professor can best serve because he need not devote his attention so ardently to routine teaching. The post-graduate student knows what he wants and proceeds to get it without outside pressure of any sort. It seems fairly certain that this type of study will become of even greater importance in medical education, certainly so far as numbers are concerned, than undergraduate study. Larger numbers of men will be in attend-

ance particularly if in doing their work they can establish residence in the larger centers of population.

*Kansas City has been called the portal of the great Southwest and this, in a very true sense, it really is. It is the logical location therefore for a post-graduate medical department for this entire region. The University of Kansas can have one of the great medical schools of the country if it but glimpses the possibilities of the future as well as of the present. Our very location demands a program of medical education that includes more than under-graduate study. Important as this may be, it will, in the future, appear small in comparison to our possibilities for furnishing graduate instruction. A great regional clinical center can successfully be built up about a graduate school; it cannot, without endangering discipline and thoroughness of study, be established where under-graduates are in attendance.*

We can, of course, go ahead no faster than public opinion can be educated, and a large post-graduate department cannot at this time be established. It is possible however, to make the beginnings by adopting, for the present, the plan of the divided medical school, two years on the university campus and two years at our present location in Kansas City. In this way the future needs of both undergraduate and post-graduate study will be best advanced and conserved. Unnecessary expense and duplication of departments will be avoided and the undergraduate can be kept on the university campus as long as is practically possible. The services of the clinical professor will be maintained and his ultimate status as a teacher of graduate students assured. As the graduate department goes forward in Kansas City and conditions for clinical study develop at Lawrence, the under-graduate can gradually be transferred to the university campus, ultimately leaving an exclusively post-graduate department in the largest city of the state. The medical school will then be ideally located in every respect. The under-graduate can pursue his studies in the quieter and less commercial atmosphere of the University, the post-graduate can enjoy under the most favorable conditions the training which he seeks. The metropolis of our state will then become a clinical center in fact, a "federal reserve bank" of medicine.

What will be the reaction of the great foundations that subsidize medical education to a program such as this? The answer to this question cannot of course be given



except to state that any plan that honestly and seriously seeks to advance medical education can be assured of careful consideration and study by them. Our first duty however, is to find ourselves, to adapt ourselves to the problems and conditions that are ours; to make an independent decision and then start blazing the new trail. If we do this with a singleness of purpose, and evidences of vision and real leadership, subsequent events may be left to take care of themselves. Others will find us when we have found ourselves.

—R—

## UNIVERSITY OF KANSAS CLINICS

### Clinic of Dr. C. B. Francisco

Associate Professor Orthopedic Surgery

#### OPERATIVE ORTHOPEDIC CLINIC

The case for operation today is E. G., Hospital No. 18378, a colored male, 33 years old, waiter by occupation. He gives the following history: that he is married, wife is living and well and one daughter, 7 years old, living and well; that there is no tuberculosis, Bright's disease, cancer or mental disease in the family that he knows of. He states that he has had measles, small pox, mumps, chicken pox and diphtheria when small and influenza two years ago, in bed 10 days, and further states that he has been troubled with night sweats for past two years, also a severe attack of tonsilitis one year ago. His present trouble began in the summer of 1923. He thinks it started from a twist of his back which was received when he was carrying a 98-pound sack of flour upstairs and caught his foot on a step causing him to nearly fall. This produced severe pain for a few minutes in his back and he had to sit down and rest, but was able to continue at his work. Since that time has had more or less pain in his back and unable to lift or stoop without causing discomfort. At times he has had severe pain in his stomach, but has continued at his work until about two weeks ago when he again fell while carrying a sack of potatoes upstairs. At this time his pain was very severe and he has been unable to work since. He came to the Dispensary on March 27th where x-ray pictures were made and his blood examined. His haemoglobin was 80 per cent, red cells 4,000,000, whites 7,800, with 64 per cent polynuclear lymphocytes; Wassermann negative; temperature 99.

On physical examination he is a fairly well developed man, weighing about 170 pounds; his reflexes are not exaggerated and all joints of the extremities are normal; chest

and abdomen negative. His spine, however, presents a slight kyphosis in the region of the tenth dorsal vertebra with marked muscle spasm of all the muscles and marked limitation of motion in all directions with pain on attempting to bend forward which is referred to the region of his stomach. No abscess can be made out. The anterior-posterior and lateral x-ray negatives, which you see, show a marked destruction of the tenth dorsal vertebra with a shadow, well defined, extending upward on either side of the bodies of the vertebrae for about four inches. This is probably an abscess in the muscle sheaths. The cartilage of this tenth vertebra are destroyed entirely but the other bodies seem not to have been affected. The diagnosis is tuberculosis of the spine involving the tenth dorsal vertebra.

This disease develops rather infrequently in the adult, and when present is often overlooked until deformity occurs. It usually follows a mild injury but never in my experience does it develop at the site of a fracture of the spinal bodies. It is always a secondary lesion, although it is not always possible to demonstrate a primary focus in the lungs or glands, but it must always be assumed to exist and the patient treated accordingly. The characteristic finding in the x-ray negative is that it shows an early destruction of the joint cartilage with a lessening of the intervertebral space. The physical findings are: muscle spasm, limitation of motion, slight temperature and definite appearance of illness. The treatment of adults with tuberculosis of the spine differs somewhat from tuberculosis of the spine in children, in that bony fixation is always indicated. In children, as you know, recumbency on a Bradford frame for a year followed by celluloid corsets or a brace to support the back during the growing period is probably the best treatment. In adults the Albee or Hibbs operation should be done when there are no contraindications. The Hibbs operation consists of fusing the spinous and transverse process. This is a good operation but probably a little more difficult than the Albee operation which consists of transplanting a piece of bone from the tibia to the spinous process, thereby uniting the spines by bridging produced by the graft.

We will now proceed with the operation. An incision is made just to one side of the spine through the skin and fascia, which is retracted, exposing the tips of the spinous process. The intra-spinous ligaments are divided and then with a sharp broad chisel the process of the diseased body is split

right down to the base of the process, and one side is broken off and a part of the laminae is exposed and markedly roughened. This same procedure is carried out on the two spines above and the two below the diseased area, making a wide trough extending down to the roughened laminae. The length of this trough is measured with a probe and the wound packed with gauze wrung out of hot saline. In this case the length is about five inches and inasmuch as the kyphosis is not very marked a straight graft will do. Where the deformity is great it is often difficult to secure a graft that is sufficiently curved to conform to the posterior curve of the vertebrae. Now we will expose the tibia, measure the length of the graft and with a single saw, on the Albee motor bone saw, remove a piece of bone about five inches long and one-half inch wide from the cortex of the tibia extending down to the medullary cavity, cutting the ends of the graft with a small saw. This graft has come away easily. While one of the assistants closes the incision in the tibia, the other one will assist me to place this graft in the trough prepared for it. In this particular case it has not been difficult for us to insert the graft and it is fairly secure, tending to stay well down in the bottom of the trough. We will now pull the split segments of the spines together and suture them with Kangaroo tendon, using five sutures. Next the fascia is closed over these sutures with chromic catgut and the skin sutured with plain gut, the wound painted with iodine and padded so that the incision will be protected. Yesterday the interne applied a plaster of paris cast and removed it from this patient, as soon as it was set, and then dried it over the radiator during the night so that we will now put this cast on him, turn him over on his back and strap it together. He is in good condition and will be returned to his bed and given an occasional hypodermic of morphia if it is required. He probably will not complain much of his back but will of his leg. However, I have never seen the slightest trouble result in the tibia, as it promptly fills in and is soon as strong as ever. If we have no infection the graft will bridge the spinous process together and relieve all of his symptoms but it is my opinion that he should wear some light form of support for an indefinite time and be instructed never to attempt to do heavy lifting, and to live in accordance with the fact that he has tu-

berculosis of the spine as well as elsewhere. We hope, however, that both processes will become and remain arrested.

### Clinic of Donald R. Black, M. D.

Assistant Professor of Medicine

#### ADDISON'S DISEASE

The diagnosis of Addison's disease is usually not confronted with much difficulty, when the cardinal symptoms, asthenia, hypotension, pigmentation, nausea, vomiting and diarrhea are present.

Unfortunately all of these symptoms are not always present at a given time, in fact some cases of proven Addison's disease never develop pigmentation.

The course of the disease admittedly is progressive, but the mode of progression is more or less paroxysmal. All the symptoms, while progressive, need not be steadily so. Occasionally remissions occur during which some degree of strength returns only to be lost to a greater degree with the next exacerbation.

Autopsy records indicate that about 75 per cent of the cases are due to tuberculosis, usually a fibro caseous type of degeneration, and that in the overwhelming majority of cases tuberculosis is present elsewhere. The remaining 25 per cent of cases usually are due to simple atrophy while occasionally cases are encountered in which the causative factor is some type of destructive new growth, syphilis, or some other non-tuberculous inflammatory condition.

In general it may be said that cases caused by simple atrophy are inclined to be insidious in origin and to live longest, while the destructive lesions usually give rise to typical cases in which the onset is more abrupt and the course is limited to months rather than to years.

Wilks and Greerhonn held to the view that the seat of the lesion was in the adrenals, but that the symptoms were produced by secondary effects on the adjacent sympathetic and solar plexus. We however know that many cases are recorded in which no sympathetic change could be found, and also we see many examples of irritation to the sympathetic with no symptom comparable to those found in Addison's disease.

At present the general trend of opinion is that muscular weakness and hypotension occur as a result of adrenal insufficiency, and that the pigment is produced by the action of oxidases upon tyrosin and other aromatic products of protein decomposition. It is possible that when the adrenal bodies are diseased, the tyrosin and allied bodies accumu-



late in the tissues, and that the greater darkening of the superficial parts most exposed to light and air gains its explanation on a basis of more active oxidation in these regions.

I wish to present three cases: one, a typical case of Addison's due to tuberculosis; second, a case in which some of the symptoms of Addison's were present, but at autopsy, a new growth involving the adrenals was found, and third, a case now under observation in which I assume a simple atrophy of the adrenals to account for his symptomatology.

C. L., age 42, a merchant, who in childhood developed tuberculosis of the right hip, was operated upon, placed in a cast with recovery. He complained of loss of weight, progressive weakness, shortness of breath, and bronzing of the skin. Six months before admission to the hospital he had successfully completed some very trying business ventures, and had gone to California to rest. He complained of feeling tired, and stated that he lacked energy to perform ordinary daily duties; that he became sunburned on the beach, and that the sunburn had failed to disappear; that for the past few weeks he had noticed shortness of breath, loss of 25 pounds in weight, and that his heart pounded on slightest exercise.

On admission his urine was essentially normal. His Hg. 70 per cent; R. B. C. 4,320,000; W. B. C., 5,800. P. 44, SL. 20, FF. 30, LM. 4, E. 2. Blood Wassermann questionable. Tuberculosis compliment fixation 4+. Blood urea, 12.14 mg. creat. 1.6 mg., sug. .95 mg. per 100 cc., PSP. 50 per cent in two hours. Stomach contents achlorhydria. Basal metabolic rate 13 per cent decrease.

Weight 132 pounds, height 5 feet, 4 inches. Normal weight 165 pounds. Blood pressure, systolic 70, diastolic 55; temperature 99, pulse 100.

Examination of chest was negative.

Stereoscopic plates showed an increased fibrosis, indicative of an old healed pulmonary tuberculosis. The patient gradually became weaker and died two weeks after admission.

Autopsy revealed, bronzed discoloration of the skin. Definite pigmentation of buccal mucous membrane.

Lungs, negative, aside from old healed scars at both apices. Heart, essentially negative. Abdomen, negative. Spleen, negative. Right kidney, negative. Left kidney, complete caseous degeneration. Simply an encapsulated shell containing caseous debris. Both adrenals presented marked fibro-

caseous degeneration. Possibly more marked in right than left.

Diagnosis: Fibro-caseous tuberculosis of adrenals. Addison's disease.

Case No. 2. Mrs. L., age 64 years, housewife, who had been in good health until one year previous to consultation, when she began to notice weakness, lack of vitality, shortness of breath, with palpitation on exertion. About six months ago, she developed a rather extreme shortness of breath, with dull heavy sensation under the sternum. Examination revealed fluid in both sides of chest. The fluid at aspiration was amber colored and not tinged with blood. X-ray examination revealed a peculiar well defined ragged mass extending from the left of the mediastinum within the left lung. A presumptive diagnosis of malignancy was made. The patient became progressively worse, required frequent tapping of the chest, became anemic and developed a peculiar brownish pigmentation, covering the anterior thorax, breasts, neck and hands.

At autopsy both adrenals were large, but on cut section both were completely riddled by dense grayish tumor masses. The entire pleura was studded with tumor nodules, which extended to and invaded the entire pericardium and also invaded the left lung.

Microscopically the tumor masses consisted of endothelial cells. The same type of cells were present, both in the adrenals and in the secondary metastatic masses in lungs and pleura.

Diagnosis: Endothelioma of the adrenals, with secondary metastases in the lungs and pleura. Producing a syndrome similar to Addison's disease.

Case No. 3. H. D., age 39, merchant, came in complaining of both mental and physical fatigue, loss of weight, insomnia and a peculiar sallowness of the skin. Ten months ago he had had influenza, followed by pneumonia. Since this time he has been subject to frequent colds. The outstanding aspect of this case was general weakness.

The patient was scarcely able to walk around the house. He had complained of rather obstinate constipation, with occasional attacks of mild diarrhea. Appetite fair, but is unable to eat anything except soft, easily digestible foods. Complained of nausea and occasional vomiting, with no particular relation to time of eating.

Blood pressure, 90-60. Height, 5 feet, 5½ inches. Weight, 115 pounds.

The urine is essentially negative. Hb. 65 per cent, RBC. 3,816,000, WBC. 7,800. P. 54, LL. 10, SL. 30. Trans. 4, E. 2. Wassermann, negative. TB Comp. fixation, (?)

Blood urea 12.62, Creat. 1.4. Chl. 480. Sugar 90 mg. per 100 cc.

Basal metabolic rate, 19 per cent decrease.

Stool negative for blood parasites and ova.

Stomach contents, achlorhydria.

Glucose tolerance test, 1.75 gm. glucose per kilo body weight:

B. S.		U. S.
F. ....	101	0
½ hr. ....	129	0
1 hr. ....	169	0
2 hr. ....	117	0
3 hr. ....	100	0

Physical examination and x-ray of chest were negative for tuberculosis.

The patient was given adrenalin 10 mi. daily, also was given suprarenal body by mouth. Was given a high caloric diet and sent to Colorado, where he improved very definitely. He was seen at home six months later, was weak. Blood pressure, systolic 100, diastolic 70. BM R. 6 per cent decrease—was feeling somewhat better but still incapacitated, more frequent attacks of nausea and diarrhea. BP. systolic 95, diastolic 65, BMR. 4 per cent decrease. Hb. 70, RBC. 3,960,000. Is at present unable to eat a high caloric diet because of gastric symptoms; is taking supra-renal body and occasional doses of adrenalin, 5-15 minims.

On several occasions his blood pressure has been taken directly after adrenalin injections, and has persistently failed to respond by more than 2-6 mm. mercury.

I reason more perhaps from the length of time which has elapsed since this patient first developed symptoms, 28 months, that the pathologic process probably is a simple fibrosis involving the adrenal glands.

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### A KANSAS CITY PUBLIC HEALTH INSTITUTE

Under the auspices of the Health Conservation Association there will be a Kansas City Public Health Institute, consisting of at least ten sessions upon Tuesday and Friday evenings beginning June 15, 1926. (Tentative).

The purpose of this Institute is to develop public speakers for public health and allied subjects. The graduates of this course will be the Speakers' Bureau of the Health Conservation Association and probably the Jackson County Medical Society.

The scope of this Institute's activities include material of public interest in Tuberculosis, Dental Hygiene, Mental Hygiene,

Housing, Social Hygiene, Cancer Control, Milk and Water Supply, Prevention of Blindness and Deafness, Hospitalization, Social Service, Clinics and Periodic Health Examinations.

Among the guest-lecturers at the course will be: Dr. John W. Dodson, Chairman of the Committee upon Public Health Education of the American Medical Association; Dr. Herman N. Bundesen, Health Commissioner of Chicago; Miss B. Carroll Kellar, Executive Secretary, Illinois Medical Society; Dr. Charles Emerson, Dean of the Medical Department, University of Indiana; Dr. Iago Gladston, New York Tuberculosis Society and Dr. Ravenel, University of Missouri.

Out-of-town applicants will be accommodated if circumstances permit. The number of matriculates will be limited to fifty. There will be a fee of ten dollars for the course, payable in advance. A practical test will be given each participant after the course and certificates awarded. All applications should be sent to Mrs. Estella L. Kelly, 420 Hall Bldg., with check accompanying same.

—————R—————

### RABIES

There is altogether too much "street virus"—too many mad dogs running about the city streets and country turnpikes. They carry death and disaster with them.

How terrifying the outlook would be if there had been no Louis Pasteur to show us how to save the lives of people bitten by mad dogs! Not less than a hundred thousand lives have thus been saved—no one can give the exact figures; but Parke, Davis & Co., who have been marketing a modification of the Pasteur vaccine (a modification in the interest of safety), state that they have sold not less than 10,000 full courses of this vaccine, thus saving, according to estimates based on the statistics of untreated cases, at least 3000 lives. It would be safe to say 10,000 but for the fact that while rabies is invariably fatal, it does not invariably develop from the bite of a rabid animal. The clothing may protect, or the virus may be washed out by the escaping blood. Nevertheless, any such wound is exceedingly dangerous.

The P. D. & Co. brand of rabies vaccine is called Rabies Vaccine (Cumming), because it was Dr. Cumming, of Ann Arbor, Mich., who discovered the dialyzing method of eliminating the toxicity of rabies virus without impairing its protective properties.



# THE JOURNAL

*of The*

## Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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### THE ANNUAL MEETING

One who has attended the State Society regularly for a number of years and who was present at the Kansas City meeting last month, must have been impressed with the spirit of peace and harmony that prevailed in all the sessions of the House of Delegates. The unanimity that was apparent at this meeting was unique in the history of the Society.

Some matters of more than usual importance were considered and a definite procedure determined upon with almost no dissension. One of the advances made by the Society was accomplished by an amendment to the by-laws that was adopted unanimously. This provides that the term of office of the President shall begin on January first, following his election and that he shall serve as President-Elect from the date of his election until the following January. The President-Elect will be ex-officio a member of the Council and will have an opportunity to familiarize himself with the Society's affairs before assuming the office of President. Since the President will serve for eight months following the annual meeting, he will have an opportunity to carry out such plans for the betterment of the organization as he may have de-

veloped and the House of Delegates approved.

A resolution to amend the constitution so as to provide for the office of President-Elect and to eliminate two Vice-Presidents was given its first reading and laid over until the next annual meeting.

The following resolution was introduced at the first session of the House of Delegates and was unanimously adopted:

Resolved, By the House of Delegates of the Kansas Medical Society, that any member of this society shall be regarded as unethical, who organizes, conducts, or participates in the operation of a free clinic which is not under the continuous approval and supervision of the County Medical Society having jurisdiction where the clinic exists.

Few, if any, free clinics have been conducted in this state under the auspices of lay organizations, but in other states these organizations have found in the free clinics a convenient and popular means for the public display of what they believe to be philanthropic motives, and doubtless in the majority of instances are such; but when once popularized may be conducted by individuals with less worthy motives, or by other organizations with less altruistic purposes.

In any case, in order that the ethical principles of the profession may not be disregarded and that the rights of individual practitioners may not be encroached upon, it is advisable that all free clinics, no matter under whose auspices they may be conducted, be investigated by the medical society in the county in which such clinic is held and that if it be approved it be thereafter conducted under the supervision of a committee from that society. This will work no hardship on the organization undertaking the charity nor upon the people it is intended to benefit, for if the clinic is the expression of a worthy purpose and if the plans upon which it is conducted are ethical there should be no difficulty in securing the approval of the county society and enlisting its cooperation and support.

From another viewpoint the significance of this action and its importance to the

organization becomes more apparent. Free clinics lie within the particular province of the medical profession, in fact no such clinic can be successfully operated without the cooperation, or rather the participation, of one or more physicians in good professional standing in the community. It is reasonable therefore that whatever of credit, or honor, or publicity, may grow out of the operation of free clinics, should be given to the representative organization of the medical profession.

The officers for the ensuing year were all elected without any contests. Dr. B. F. Morgan, who has served a term as vice-president and who presided during a considerable part of the general sessions, was unanimously elected president. Dr. Earle G. Brown, Secretary of the State Board of Health; Dr. I. B. Parker, of Hill City; and Dr. J. B. Carter of Wilson, were elected vice-presidents. Dr. J. F. Hassig was elected to succeed himself as secretary and Dr. Geo. M. Gray to succeed himself as treasurer. Dr. O. P. Davis was re-elected councilor for the Fourth District; Dr. J. T. Axtell was re-elected councilor for the Fifth District; Dr. C. C. Stillman of Morganville was elected councilor for the Seventh District to fill the vacancy caused by the death, on May 5, of Dr. E. G. Mason. Dr. Alfred O'Donnell, who was appointed by the Council to fill the vacancy caused by the death of Dr. J. D. Riddell, was elected by the House of Delegates to fill out the unexpired term, as councilor for the Eighth District. The election of a councilor for the Ninth District was passed and Dr. Kenney will therefore serve for another year. Dr. C. H. Ewing of Larned was elected councilor for the Eleventh District.

The scientific program was an attractive and interesting one and all of the papers received close attention. The invited guests were on hand and their addresses were greatly appreciated. The audience chamber was well filled during every session. There was but one fault to be found with the program and that was the apparent diffidence of the members in the matter of

discussion. Few of the papers received the general discussion they deserved.

On Wednesday the members were entertained by the Wyandotte County Society with a banquet and some very high class vaudeville selections.

Dr. Jabez Jackson, who was elected President of the American Medical Association at the Dallas meeting, was the guest of honor at the banquet.

The next annual meeting of the Society will be held in Hutchinson beginning the first Tuesday in May, 1927, and continue through a three-day session.

#### THE GUEST OF HONOR

Kansas shares honors with Missouri in the election of Dr. Jabez Jackson to the presidency of the American Medical Association. While he lives in that part of Greater Kansas City that lies across the line, Kansas contributed somewhat to his experience and his reputation. He can confidently boast of a large acquaintance and as large a friendship among Kansas physicians.

Thirty years ago his was a familiar figure at the annual meetings of the Kansas Medical Society, where his genial personality, his forceful discussions and his charming oratory made for him many friends and admirers. Except for his hoary crown, these many winters have made no change in him. His presence exudes good-fellowship; one sees it in the sparkle of his eye and in his smile, and one feels it in his handclasp. He will do honor to the Association that has chosen him for its president, and to the Middle West to which he belongs.

#### THE CAMPAIGN AGAINST CANCER

Any campaign of educational publicity conducted for the ultimate purpose of reducing the mortality from cancer must be considerably handicapped because the people generally do not, possibly cannot, distinguish between statements based upon established data and the theories of unreliable promoters.

The avidity with which the people read the articles on health and disease that ap-



pear in the public prints has apparently brought about a competition, in this matter of educating the public, between the disinterested efforts of those who would teach the people how to protect themselves against disease and those who would take advantage of their credulity and commercialize their ills.

Too little is really known about cancer, but what is known from careful research and from the clinical experience of a great many trustworthy observers, may be of inestimable value to the people when once they recognize its authenticity.

There are a few facts and a great many theories concerning a number of subjects in medicine, but cancer has proven a prolific field for the theorists. Some very plausible theories have been written about this particular affliction of the human race, some of them with sufficient foundation in fact to appeal to, and be accepted by, men of no insignificant prominence in the profession. But as step by step, slowly but surely, a few more facts have been added to those already known, most of these theories have been modified or abandoned.

Since members of the medical profession have readily accepted the theories, expounded by men of wide clinical experience, based upon the few facts that were known, laymen can hardly be criticized for accepting the very plausible theories, based upon many assumed facts, that are expounded by those who would exploit the victims of cancer.

Any theory of the cause of cancer upon which a seemingly rational treatment is based, especially if this in some manner follows the newer lines of therapy, will appeal to the people; especially so when confronted with the alternative of uncertain results the qualified surgeon of conscientious integrity is able to offer. So long as it is possible for errors to occur in the diagnosis of malignancy, and so long as "in advanced stages certain malignant tumors advance more slowly, become stationary or even regress" (Ewing) there will be some clinical results upon which even the tyro in medicine may base his claims for the recognition of his special line of treatment. In this man-

ner perhaps some reputable men in the medical profession have been led to put confidence in the virtues of a so-called "synthetic antitoxin" expounded by Dr. Koch and his associates.

Occasionally a benign tumor develops malignancy. Occasionally a growth whose histological structure predicates a malignant course fails to show any clinical evidences of malignancy. Since our knowledge of the etiological factors involved in the production of malignancy is indefinite and uncertain, it seems to be the consensus of opinion that, as a safety precaution, the people should be taught that all new growth are potentially malignant. When the people generally can be brought to accept this teaching and submit all new growths for examination and treatment, both the surgeon and the general practitioner will be able to report a larger percentage of cures of cancer, but that the mortality from cancer will be lowered is yet to be demonstrated. Unfortunately a large per cent of cancerous conditions are not accessible to diagnosis in their early stages

Of the 80,938 deaths from cancer in 1922, 31,128, or 38.5 per cent, were due to cancer of the stomach and liver; 10,868, or 13.4 per cent, to cancer of the peritoneum, intestines, and rectum; and 11,848, or 14.6 per cent, to cancer of the female genital organs. It is hardly likely that many of the patients in either of these groups suspected the existence of cancer at an early period of its development; nor is it likely that the medical attendant could, if he had had an opportunity, have made a diagnosis of malignancy at an early stage.

If early diagnosis is to play a very important part in the cancer mortality of the future, some test must be discovered by which the existence of malignancy may be definitely determined, even though inaccessible organs and tissues of the body are involved.

—R—

Dr. George Brown of the Mayo Clinic visited the Medical School recently and spoke to the students on "The Treatment of Certain Phases of Motor Disturbances." He was accompanied by Dr. George Eusterman, also of the Mayo Clinic.

## CHIPS

The frequent association of intestinal indigestion with various dermatoses is pointed out by Hans J. Schwartz (*Archives of Dermatology and Syphilis*, May, '26) in a report based on an analysis of more than 900 feces examinations made in cases of various dermatoses. He concludes that intestinal toxemia is an important etiologic factor in the production of many dermatoses, especially those of the inflammatory type. A particular high frequency of occurrence of intestinal indigestion was noted in severe acne, eczema ani, the oily type of seborrheic eczema, urticaria, rosacea, furunculosis and pruritis.

Simply stated, the principle upon which acidified milk is recommended in the artificial feeding of infants is that in order to maintain a bacteria-free state of the small intestine its contents must be slightly acid. The hepatic, pancreatic and intestinal juices are alkaline, only the gastric secretion being acid. The reaction of the small intestine therefore depends upon the material coming into it from the stomach. Cow's milk is more alkaline than mother's milk, or as it is stated, has two to three times the buffering property of mother's milk. On a diet of cow's milk then the contents of the small intestine may become neutral or alkaline and rich in bacterial flora.

The treatment of tetanus is not hopeless, according to an article by Wainwright in the *Archives of Surgery*, May, 1926. In his opinion intraspinal injections are harmful, increase mortality and should be abolished. Antitetanus serum given by vein in doses of from 30,000 to 50,000 units or more, according to the severity of symptoms and time since onset will divide the present mortality rate by two or three. It should be given promptly and always in the vein. He considers chlorbutanol the best sedative. It should be given by mouth in a dose of thirty grains dissolved in hot whiskey, or seventy-five grains dissolved in hot olive oil by rectum. This should be repeated often enough to keep the patient relaxed and drowsy until the danger is past.

While the principle upon which the use of acidified milk is recommended in the artificial feeding of infants is apparently generally applicable, it is the consensus of opinion that it should not be adopted as a routine measure. Faber is an article in the *American Journal of Diseases of Children*, March, 1926, concludes as follows: "On the basis of the available studies, acidified milk may

be considered to be a useful therapeutic agent for certain specific disorders. As such, it should be given only when there are specific indications, and for periods of time limited by the regression of symptoms. Organic as well as inorganic acids deflect metabolism from the normal to a recognizable, though not as yet fully determined extent. For this reason, the routine use of sour milk in the feeding of normal infants is not to be encouraged. For them modification of cows milk by dilution and carbohydrate addition remains the method of choice."

It is estimated that at least seventy per cent of normal women have more or less pain at their menstrual periods. It has been claimed by some that pain is a normal accompaniment of menstruation but it has not been explained why a normal physiologic function should be painful. The question has been raised if the regular repetition of the menstrual flow is a normal function, if it was not intended in the natural order of things that pregnancy should follow the first menstrual flow of the female and that each pregnancy and period of lactation should be followed by another pregnancy.

A chemical test which will determine definitely and at an early period the existence of malignancy should be of inestimable value. Wigand proposed to determine the existence of a malignant growth on the reaction of the blood serum to a solution of tannic acid. In these tests the margin of difference between the reactions of normal serum and the serum from persons having cancer was neither very great nor very definite. There was little if any difference in cases of carcinoma of slight extent and the normal. In the latter stages of pregnancy the reaction was similar to that in cases of extensive carcinoma. Fuchs, in *Klinische Wochenschrift*, December, 1925, claims to have discovered a substance which becomes disintegrated in the serum of patients with malignant tumors, but is not changed in the serum of healthy individuals, or any except those afflicted with malignant growths. Fibrin is secured from a tumor-free individual and prepared by a special method. With this fibrin preparation the serum from the blood of the individual suspected of having cancer is treated and after a definite time a test for non-coagulable nitrogen is made. In the sera from all malignant tumor bearers an increase in the non-coagulable nitrogen is found, while in all others there is no increase. He claims that in 145 cases in which this test was made there was con-



formity in the findings with the clinical diagnosis.

The administration of codliver oil to young infants seems to have little if any effect in preventing rickets. Dr. May G. Wilson, American Journal of Diseases of Children, found in an investigation conducted at the New York Nursery out-patient department that 91 per cent of a group of infants, aged from one to three months, born in the spring and summer, and who received graduated doses of one-half to one and one-half teaspoonfuls of a biologically tested codliver oil, developed clinical rickets. Sixty-eight per cent of forty-seven infants who received similar codliver oil dosage and seventy-six per cent of thirty cases that did not receive codliver oil developed clinical rickets. Ninety-seven per cent of infants born in the summer and ninety-one per cent of those born in the winter, who received codliver oil, showed roentgenographic evidences of rickets. Ninety-seven per cent of infants born in the summer and ninety-eight per cent of those born in the winter, who did not receive codliver oil, showed roentgenographic evidences of rickets. The only definite effect noted seemed to be that rickets in infants receiving codliver oil healed earlier than in those that received none.

—R—

American Optical Company, manufacturers and world-wide distributors of ophthalmic equipment and merchandise, are engaged in a National advertising campaign that is causing a good deal of comment about the cleverness of its appeal. "To Make America Eye-Conscious" is the purpose of the campaign. The fifty-third advertisement in the series to be run in the Saturday Evening Post of June 5, stresses the need of good vision for children. A compelling picture of the start of a track race, a boy dressed in running trunks against a boy who is heavily encumbered by a diving suit, carries this headline, "Your child may be worse handicapped." The message goes on to tell of the need for good vision at the start of life's race.

—R—

#### Proceedings of the Sixtieth Annual Meeting of the Kansas Medical Society, Held at Kansas City, Kas., May 4, 5 and 6, 1926

##### MEETING OF THE HOUSE OF DELEGATES

The House of Delegates met in the large room on the second floor of the Chamber of Commerce, May 4, at 7:30 P. M. Because the minutes of the last meeting had

been published in The Journal a motion to dispense with their reading was made and carried.

##### SECRETARY'S REPORT

To the House of Delegates, Kansas Medical Society: I desire to make the following report for the year ending May 1st, 1926:

Balance on hand May 1st, 1925:		
Medical Defense .....	\$4,071.65	
General Fund .....	6,519.70	
Total .....		\$10,591.35
Cash received from all sources for year ending May 1st, 1926:		
Dues from members....	7,505.00	
Received from editor....	308.67	
Total cash .....		7,813.67
Total .....		18,405.02
Expended:		
Medical Defense .....	1,983.13	
General Fund .....	4,065.73	
Total Expenditures .....	6,047.86	
Balance .....		12,357.16
Standing of Funds:		
Medical Defense .....	5,059.52	
General Fund .....	7,297.64	12,357.16

I take pleasure in reporting this successful year for the Kansas Medical Society, not only as to membership, but also as concerns the financial condition, which you will note from the report just given, shows a material increase over that of our last fiscal year.

We are deeply grateful over the state of affairs as it was prophesied and feared by some, at the meeting of the House of Delegates last year when the dues were increased that the membership would decrease. But this calamity did not occur, and to our surprise and pleasure, only one protest was received, showing that the members in general realized the necessity of the increase and also their belief in the benefits enjoyed by a membership in the State Society.

To this Society from which a protest came, we wrote explaining the reason for the increase and they promptly remitted their dues without further objection or the loss of a single member.

There has been a general interest and co-operation by officers, councilors and secretaries of local societies thruout the year, and their assistance has been most valuable in gathering material for the making of this very interesting program, and I thank them most heartily.

To our President, Dr. Carmichael, I wish to express our appreciation for his untiring efforts towards a successful future for the

Kansas Medical Society. He has had its interest ever at heart and his letters to Councilors, secretaries and officers are proof of his energetic program for his Society. His paper read before you this morning in the general session is but further proof of his ambition for the future growth and prosperity of the Kansas Medical Society.

I also tender my thanks and those of the assembly at large to the honored guests who have favored us with their generosity of time and talent for our pleasure and profit. That you will all enjoy the program presented is our earnest hope.

Respectfully submitted,

J. F. HASSIG, Secretary.

Report accepted and filed.

#### TREASURER'S REPORT

To the House of Delegates, Kansas Medical Society:

As Treasurer of this Society, I desire to make the following report for the year ending May 1st, 1926:

Balance on hand May 1st, 1925:	
Cash balance in bank May 1st, 1925..	\$2,975.50
Liberty Bonds, all registered in the name of George M. Gray, Treasurer Kansas Medical Society or his successors.....	6,000.00
Certificates of Deposit in Riverview State Bank in name of George M. Gray Treasurer Kansas Medical Society or his successors .....	3,000.00
Total Cash and Assets.....	11,975.50
May 1st, 1926:	
Cash balance in bank.....	6,071.31
Liberty Bonds .....	6,000.00
Certificates of Deposit.....	2,000.00
Total Cash and Assets.....	14,071.31
1925 Total .....	11,975.50
Difference .....	2,095.81
1926 Expenditures:	
Defense Fund .....	\$1,982.13
General Fund .....	4,065.73
Total .....	6,047.86

#### Resources:

Cash received from dues and turned over to me by Secretary.....	7,813.67
Certificate of Deposit cashed.....	1,000.00
Interest .....	330.00
Total Cash Received.....	9,143.67
Balance May 1, 1925.....	2,975.50
Total .....	12,119.17
Expenditures .....	6,047.86

May 1, 1926—Balance in bank subject to check .....

Expenditures for year from May 1, 1925 to May 1, 1926.

#### GENERAL FUND

Voucher No.	Payee	Amount
88	Saraleen Curtis, Topeka.....	\$ 10.00
89	Hotel Kansan, Topeka.....	49.70
90	Dr. W. E. McVey, Salary.....	1,800.00
91	Dr. J. F. Hassig, exp. acct.....	992.55
92	Dr. H. M. Richter, Chicago, guest...	50.00
93	Dr. M. F. Engman, St. Louis, guest..	112.00
94	Dr. E. E. Liggett, necrol. report...	6.60
95	Dr. F. Smithies, Chicago, guest.....	28.00
96	Dr. W. M. Mills-Dr. Smithies.....	5.61
97	Lowe Ptg. Co., Dr. Carmichael Sta..	9.85
98	American Medical Assn., directory..	12.00
99	American Medical Assn, memb. cards	12.00
100	C. S. Kenney, Norton.....	47.52
101	D. R. Stoner, Ellis.....	50.39
102	W. F. Fee, Meade.....	46.00
103	J. T. Axtell, Newton.....	24.50
104	P. S. Mitchell, Iola.....	16.63
105	O. P. Davis, Topeka.....	9.25
106	S. Murdock, Sabetha.....	13.00
107	J. A. Dillon, Larned.....	39.70
108	F. A. Carmichael, Osawatomie.....	6.00
109	J. F. Hassig, exp. acct.....	687.83
110	Kansas Bankers' Assn, bonds.....	7.50
111	St. Louis Button Co., badges.....	19.40
112	Evans Press, programs, env.....	110.50
		<u>4,065.73</u>

#### DEFENSE FUND

Voucher No.	Payee	Amount
55	O. P. Davis, Topeka, salary.....	\$ 75.00
56	O. P. Davis, Topeka, stamps.....	5.00
57	J. D. M. Hamilton, Topeka.....	182.86
58	J. D. M. Hamilton, Topeka.....	96.20
59	J. D. M. Hamilton, Topeka.....	75.00
60	O. P. Davis, Topeka, salary.....	75.00
61	J. D. M. Hamilton, Topeka.....	141.04
62	J. D. M. Hamilton, Topeka.....	154.58
63	J. D. M. Hamilton, Topeka.....	235.39
64	O. P. Davis, Topeka, salary.....	75.00
65	J. D. M. Hamilton, Topeka.....	80.16
66	J. D. M. Hamilton, Topeka.....	115.25
67	J. D. M. Hamilton, Topeka.....	155.00
68	O. P. Davis, Topeka, salary.....	75.00
69	J. D. M. Hamilton, Topeka.....	199.60
70	J. D. M. Hamilton, Topeka.....	75.00
71	J. D. M. Hamilton, Topeka.....	167.05
		<u>1,982.13</u>
72	Dr. Thos. G. Orr, K. C., Mo., unpaid	26.10
		<u>2,008.23</u>

Respectfully submitted,

GEO. M. GRAY, Treasurer.

Report accepted and filed.

#### COUNCILOR'S REPORT

Dr. S. Murdock, Sabetha, Councilor 1st District: Every county in the First District with the exception of Jefferson and Pottawatomie Counties has organized medical societies, holding regular meetings. In Nemaha and Brown counties every eligible physician belongs to the Society. The other counties are represented by the majority of the resident doctors. There have been no complaints or troubles of any kind reported to the Council in the first district.

Report accepted and filed.



Dr. L. B. Spake, Kansas City, Councilor 2nd District—no report received.

Dr. P. S. Mitchell, Iola, Councilor 3rd District: The 11 counties making up the third councilor district are all well organized and in the usual working order except Chautauqua County whose membership is too small and scattered, and one member of which at least meets with another county unit.

I find a growing tendency toward a lack of interest in monthly meetings. There seems to be a call for district meetings for twice a year, for which I am heartily in favor, but there seems to be obstacles getting one started. There is no trouble in the district.

Report accepted and filed.

Dr. O. P. Davis, Topeka, Councilor 4th District: The Fourth District comprises the counties of Shawnee, Wabaunsee, Geary, Osage, Morris, Lyon and Chase. All these counties, except Geary, enter into the composition of Shawnee County and Lyon County Societies, according as the one or the other is more accessible to the physicians of a given locality. This alignment has been the result of a natural evolution, two strong societies having been found to serve this territory better than several weak ones.

The Shawnee County Society had a paid up membership during the past year of 140, in addition to three emeritus members. This membership is composed as follows, by counties: Shawnee 115, Osage 11, Jefferson 8, Wabaunsee 3, Jackson 2, Pottawatomie 1. During the year six new men were received, all from Shawnee county, and seven members were lost; one by death, three by removal to other states, and three by removal to other counties.

Ten regular meetings were held during the year and one special meeting. The average attendance per meeting was 46. It will be observed that Shawnee County Medical Society is in a flourishing condition and is serving its purpose well. This is largely due to its efficient officers, and especially its secretary, Dr. Earle G. Brown.

The Lyon County Society derives its membership not only from Lyon county, but also from Morris, Chase, Osage and Greenwood counties. It has a membership of 41, composed as follows, by counties: Lyon 27, Morris 2, Chase 4, Greenwood 6, Osage 2. During the year no new members were received. One member was lost by death. There were no suspensions or removals. Eleven regular meetings were held; no special meetings. The society is a live one.

The meetings are alternately by local men and by out of town speakers. At the latter meetings, there is a clinic in the afternoon. This society is always manned by efficient officers who, with a strong and devoted membership, carry out the best ideals of medical organization. Many of us will not soon forget the splendid meeting of the State Society held some years ago in Emporia, and the wonderful hospitality of the physicians and other citizens there.

As to the Geary County Society, I am able to give no information further than that the physicians there maintain a nominal organization but do not hold meetings, or at any rate not regular meetings.

Report accepted and filed.

Dr. J. T. Axtell, Councilor 5th District: Medical Societies and Medical work in the Fifth district is in good condition. Most of the counties have good medical societies and meet pretty regularly. The programs are also good and they are well attended. Some of the western and more sparsely settled counties have no society nor would it seem advisable to form any new ones. Roads are generally good and flivvers well tuned up and the doctors prefer to go to the larger towns and attend larger societies than they could have at home. There is also a tendency to form and to hold district meetings about twice a year and these are even better attended than the county societies.

Your councilor has had the pleasure of attending in the last two years most of the county and district meetings at least once, and it has been a pleasure and inspiration to do so. He would recommend a further effort to get more of the isolated doctors to join the societies already formed rather than organize any new ones in this district.

Report accepted and filed.

Dr. E. S. Edgerton, Wichita, Councilor 6th District—no report received.

Dr. E. G. Mason, Cawker City, councilor 7th District: This district is composed of Rooks, Osborne, Jewell, Mitchell, Republic, Cloud, Washington and Clay counties and are in good working order. Every county in the district is organized and holding occasional meetings, except Rooks county which has no organization of her own. But the doctors in the north and central part belong and hold their membership in Norton-Decatur County Society and the doctors at Plainville in the southern part, hold their membership in Central Kansas Society. The doctors of the district, with few exceptions, are members of the Society. There is a general good feeling in the district and the

doctors are working in harmony in the several counties.

Report accepted and filed.

Dr. Alfred O'Donnell, Ellsworth, Councilor 8th District: District is composed of Lincoln, Ellsworth, Ottawa, Saline and Dickinson counties. Saline is the largest county society. They meet monthly and have program following dinner, their yearly dues include the price of the dinners. All meetings are well attended. There are 32 members in the society; there are eight other doctors in the county, of these, three are eligible for membership in the State Society and five who would be classed as ineligible.

Ellsworth County with Russell and Ellis Counties form the Central Kansas Medical Society; this society holds quarterly meetings which are well attended. Ellsworth County has eight physicians all of whom are members of the State Medical Society. Lincoln County Medical Society has eight members, six of whom are members of the state society. Their society meets monthly but has not been active the last two or three months; they are planning for a good meeting in May. Ottawa County has nine members and is scheduled to meet monthly.

Report accepted and filed.

Dr. C. S. Kenney, Norton, Councilor 9th District: No report received.

Dr. D. R. Stomer, Ellis, Councilor 10th District: No report received.

Dr. J. A. Dillon, Larned, Councilor 11th District: I had planned to attend the state meeting but find it impossible to get away on account of the good wife having broken a leg as you are aware. Am fairly selfish but can't quite summon sufficient nerve to go away under the circumstances. As my councilor term expires a new man will be elected. Any one will be satisfactory to me and I can do just as much work on the outside.

This district is organized as much as it should be. We have the Barton County Society, Pawnee County, Rush-Ness County, with practically every eligible man belonging. We have also the Seventh District, a free lance organization that owes allegiance to neither God nor man. You have seen the workings of it.

Farther west are counties with only one man practicing. So far as I can learn they are functioning ethically and wearing out about two flivvers a year. Have never been closer than one hundred fifty miles to them.

I wish at this time to thank you personally for coming out and helping to make our meeting a success, and trust you will have a

fine meeting at Kansas City. (This is copy of a letter written to Dr. Carmichael by Dr. Dillon.) Report accepted and filed.

Dr. W. F. Fee, Councilor 12th District: No report received.

#### REPORT OF MEDICAL DEFENSE BOARD

The Medical Defense Board begs to submit the report of the 15th year of its operation. The statement of its attorney is subjoined and constitutes the most important part of this report. A condensed statement of expenditures is also submitted herewith. It will be observed that the expenses are slightly in excess of those of last year. There have been eight new cases filed during the past year—two more than in the preceding year—and there are now twenty-four actions pending, as compared with twenty a year ago. Our attorney, Judge John D. M. Hamilton, has been highly satisfactory and efficient in the conduct of our legal department, not having lost a case for us during the period covered by this report.

Our members are gradually waking up to the value of this weapon of our society. The Board is being called upon by the members almost invariably, when they are threatened with a suit, even when otherwise protected by indemnity insurance, whereas it was formerly looked upon with scorn and derision by many such. There is nothing like a good lively damage suit to make one appreciate the comfort of having a co-operating professional organization come to the rescue. Fellows who have been thru this kind of mill are usually champions of our system from that time on.

Respectfully submitted,

O. P. DAVIS, Chairman  
D. R. STONER

#### DEFENSE FUND EXPENDITURES—1925-26

Voucher No.	Payee	Amount
55	O. P. D. Sal. Feb. Mch. Apr.....	\$ 75.00
56	O. P. D., postage.....	5.00
57	J. D. M. H., sal. p. d. and exp.....	182.86
58	J. D. M. H., sal. p. d. and exp.....	96.20
59	J. D. M. H., sal. p. d. and exp.....	75.00
60	O. P. D., sal., May, June, July.....	75.00
61	J. D. M. H., sal. p. d. and exp.....	141.04
62	J. D. M. H., sal. p. d. and exp.....	154.58
63	J. D. M. H., sal. p. d. and exp.....	235.39
64	O. P. D., sal., Aug., Sept., Oct.....	75.00
65	J. D. M. H., sal. and exp.....	80.16
66	J. D. M. H., sal. p. d. and exp.....	115.25
67	J. D. M. H., sal. and p. d.....	155.00
68	O. P. D., sal. Nov., Dec., Jan.....	75.00
69	J. D. M. H., sal. p. d. and exp.....	199.50
70	J. D. M. H., sal. p. d. and ex.....	75.00
71	J. D. M. H., p. d. and exp.....	167.05
72	Dr. T. G. Orr, exp., Winfield (wit.)..	26.10
Total .....		2,008.13



The above is a condensed statement of the expenditures. Each voucher shows, in itemized form, every expenditure. These vouchers are available for inspection.

EXPENDITURES MEDICAL DEFENSE BOARD  
12 YEARS

1915 .....	\$1,254.95
1916 .....	1,189.27
1917 .....	777.45
1918 .....	809.58
1919 .....	759.41
1920 .....	1,245.51
1921 .....	1,458.35
1922 .....	1,236.08
1923 .....	1,310.96
1924 .....	1,479.76
1925 .....	1,970.04
1926 .....	2,008.13
Total 12 years.....	15,499.49
Average per year.....	1,291.62

REPORT OF ATTORNEY FOR MEDICAL DEFENSE  
BOARD FOR YEAR 1925-26

As attorney for the Defense Board of the Kansas Medical Society, I have the honor to present herewith, my report for the year ending May 1, 1926, which is set out as a summary in tabular form.

You will note from the report that there have been eight actions filed since the date of the last report and there have also been four actions dropped from the report, there now being twenty-four actions pending in some form or other as compared with twenty of a year ago. This does not mean, however, that there have only been four cases disposed of for the last year, for you will note that on the present report there are six cases which have been definitely disposed of but are carried in this report for information. I am glad to be able to state that the Society has not lost a case during the period covered by this report. Of the cases which came on for trial during this year, two were dismissed by the plaintiff because of inability to make a proper showing. Two were taken from the jury by the court and judgment entered by the court for the defendant, and one which went to the jury resulted in a verdict for the defendant.

SUMMARY OF CASES—

MEDICAL DEFENSE BOARD

1 Herrick vs. Dr. A. F. Harrison, negligent failure to remove part of broken surgical needle, filed August 11, 1922, dismissed by court for want of prosecution.

2 Parr vs. Dr. R. Claude Young, negligent treatment of fracture of radius and compound dislocation of ulna, filed July 11, 1923, pending on appeal before Supreme

Court, of Kansas—State Society no longer a representative in this case.,

3 Alder vs. Dr. A. E. Hertzlner, failure to remove surgical needle after operation for brain tumor, filed July 30, 1923, case settled.

4 Smock vs. Dr. L. A. Corwin and Dr. W. G. Bouse, failure to properly reduce and treat fracture of femur, filed April 25, 1924, for trial.

5 Anise Bloyd vs. Dr. Malcolm Newlon Dr. J. M. Sutton, negligent failure to properly reduce and treat fracture of femur, filed April 25, 1924, verdict for defendant pending on plaintiff's motion for a new trial.

6 S. W. Bloyd vs. Dr. Malcolm Newlon and Dr. J. M. Sutton, action by husband for loss of service account of negligence, as set out above, filed April 30, 1924, verdict for defendants pending on plaintiff's motion for a new trial.

7 Beard vs. Dr. I. I. Smith, Dr. M. J. Dunbar and Dr. J. A. Jacobus, negligent removal of ovaries in violation of consent to operate, filed June 12, 1924, dismissed by plaintiff.

8 Marken vs. Dr. A. K. Owen and Dr. G. A. Finney, x-ray burn, filed September 8, 1924, defendant's demurrer judgment for defendants, pending on plaintiff's motion for new trial.

9 Cross vs. Dr. R. Claude Young, negligent operation on wrong hip after a diagnosis of hip disease, filed September 9, 1924, dropped from files because of failure of Dr. Young to perfect his application to defense board for assistance.

10. Dr. C. B. Stevens vs. Ketcham (Dr. G. S. Lambeth made a party plaintiff upon application of defendant), improper reduction of fracture, failure to make proper diagnosis and negligent treatment in operation for gallstones. Action started on cross petition of defendant, filed October 25, 1924, dismissed by defendant upon settlement.

11 Howard vs. Dr. J. B. Musick, negligent use of insulin, filed November 22, 1924, for trial.

13 Barrett vs. Dr. A. Bennie, negligent fracture of bladder during child birth, filed February 6, 1925, for trial.

14 Sterba vs. Dr. J. A. Hull, failure to properly reduce and treat fracture of radius, filed April 15, 1925, for trial.

15 \*Schmitt, Executor vs. Dr. C. F. Mc-

\*In this case there were originally two actions one for the suffering of the deceased during his lifetime and the other for loss to his surviving heirs because of death. The prior action was defeated on the pleadings the second case being disposed of as indicated above.

Nair, improper prescription of poison resulting in death, filed April 15, 1925, verdict for defendant pending on plaintiff's motion for new trial.

16 LaTourette vs. Dr. G. M. Liston, failure to properly diagnose and reduce a fracture of the astragalus, filed April 24, 1925, for trial.

17 Teel vs. Dr. Walter J. Singleton and Dr. W. J. Lewis, negligent reduction of fracture of radius, filed June 16, 1925, defendant's demurrer sustained and judgment entered for the defendant pending on plaintiff's motion for new trial.

18 Bangert vs. Dr. R. R. Cave, negligent refusal to treat, filed July 24, 1925, pending on preliminary pleadings.

19 Dr. W. J. Stewart vs. Wright, action brought for services. Defendant filed a cross-petition setting up negligent treatment of a fracture of the semi-lunar notch, filed July 28, 1925, for trial.

20 Plate vs. Dr. B. C. Geeslin and Dr. C. L. Zugg, improper reduction of fracture of femur, filed September 15, 1925, plaintiff dismissed with prejudice. (Judgment for defendants.)

21 Schmidt vs. Dr. F. J. McEwen and Dr. L. D. Johnson, negligent appendectomy, filed October 16, 1925, pending on preliminary pleadings.

22 Bennett vs. Dr. G. E. Kasebaum and Dr. J. C. Bunton, negligent reduction of fracture of tibia, filed November 21, 1925, pending on preliminary pleadings.

23 Strode vs. Dr. W. T. McKay, improper treatment of injured tibia, filed February 11, 1926, pending on preliminary pleadings.

24 Tuttle vs. Dr. P. F. Wesley, improper reduction of fracture of radius, for trial.

#### REPORTS OF STANDING COMMITTEES

Report of the Executive Committee of the Council was verbal to the effect that no meetings were called during the year.

Dr. Earle G. Brown, Chairman of Committee on Public Health and Education introduced the following resolutions, which were adopted:

Whereas, there has long been a need for a publication for lay people, dealing with medical subjects, and

Whereas, the American Medical Association in the past few years has been publishing Hygeia, a Journal of Individual and

Community Health, which gives to lay readers reliable information.

Therefore, be it resolved, that the Kansas Medical Society endorse Hygeia, and be it further resolved:

That the State Medical Society request each County Medical Society to place a copy of this publication in each of the Public Libraries, and the libraries of each college and high school within its respective jurisdiction.

Whereas, statistics show that the number of deaths from cancer is increasing each year, and

Whereas, statistics show for 1925 in the State of Kansas, the highest cancer death rate on record, and

Whereas, the education of the people in regard to the prevention of cancer rests largely with the members of the regular medical profession, therefore be it

Resolved: That each County or District Medical Society hold public meetings in the various communities of their counties, for the purpose of disseminating knowledge in the prevention of cancer.

Whereas, medical information which is misleading is frequently given to the public, and

Whereas, such information should be issued from authoritative sources, therefore be it

Resolved, That at least once each year a public meeting be held for the purpose of promoting interest in personal hygiene and sanitation, and that the meeting will be sponsored and the speaker furnished by the County or District Society.

On motion, the Editor of the Journal, Dr. W. E. McVey, was instructed to publish an editorial or extracts on cancer each month.

There was no report made by the Committee on Public Policy and Legislation, no member of the Committee being present.

Committee on School of Medicine made the following report: Your committee desires to report that in their judgment, during the past year the progress of the medical school has been seriously handicapped due to the atmosphere of uncertainty which has prevailed, and will continue to prevail, until a fixed policy as to the location has been adopted.

This uncertainty has undermined the confidence of the public, the medical profession and the student body and has affected the morale of the faculty.

(Concluded in July)



**Annual Meeting of the Kansas Medical  
Women's Association, Thursday,  
May 6, 1926**

Chamber of Commerce, Kansas City, Kan.

4:00 P. M.—Business Meeting. The following officers were elected: President, Dr. Caroline Juergens, Topeka; Vice President, Dr. Emma Hill, Oswego; Secretary-Treasurer, Dr. Sarah Stevenson, Topeka.

6:30 P. M.—Dinner in honor of the women medical students graduating from the Kansas State Medical School. Toastmistress, Dr. Ione Clayton, Arkansas City; Response, Miss Pearl Matthaei, Senior Medical Class.

8:00 P. M.—Program. "Greetings to Senior Medical Women," Dr. Emma Hill, Oswego; "Our Mediteranian Cruise", Dr. Lucena Axtell, Newton; "What is New in Serology", Dr. Cora Downs, Lawrence; "Our Novitiates", Dr. Florence Brown-Sherbon, Lawrence.

—————R—————

### DEATHS

Dr. E. G. Mason, Cawker City, aged 71, died May 5, 1926. He graduated from the Eclectic Medical College, Cincinnati in 1885. He was an active member of the Kansas Medical Society and Councillor for the Seventh District.

Dr. William Kurtz Mathis, Chanute, Kansas, aged 45, died March 9, 1926, of nephritis. He was a graduate of the University Medical College, Kansas City, Missouri, 1903, and was a member of the Kansas Medical Society.

Dr. Charles A. Forsythe of Kincaid, Kansas, aged 48, April 16, died of heart disease. He graduated from the College of Physicians and Surgeons, Keokuk, 1908, and was a member of the County, State and A. M. A. Societies.

Dr. Orville O. Moore, Effingham, aged 44, died suddenly April 29, 1926. He graduated from the Kansas Medical College in 1906. He served four years in the Medical Corps of the army during the World War. He was a member of the Kansas Medical Society.

Dr. Joseph Howard Langworthy, Leavenworth, aged 47, died suddenly March 30, 1926. He graduated from the University of Pennsylvania School of Medicine in 1907.

He was a member of the Kansas Medical Society.

Dr. John Daniel Walthall, Paola, Kansas, aged 66, was killed in an automobile accident near Osawatomie, March 22, 1926. He was a graduate of the University of Michigan Medical School, Ann Arbor, 1883.

Dr. Abraham S. Gish, Abilene age 82, died April 25, 1926. He graduated from the Eclectic Medical College of Pennsylvania in 1869.

Dr. James William Cave, Wichita, age 57, died April 26, 1926, of heart disease. He graduated from Kentucky School of Medicine in 1892. He was a member of the Kansas Medical Society.

Dr. Thomas Smith Greer, Edgerton, Kansas, age 63, died April 2, 1926, following an operation. He graduated from the University Medical College, Kansas City, Missouri, in 1897. He was a member of the Kansas Medical Society.

Dr. Abraham L. Holloway, Hutchinson, age 68, died suddenly April 15, 1926. He was a graduate of Bennett Medical College, Chicago, 1878.

Dr. Edward O. Smith, Winfield, age 55, died April 13, 1926. He graduated from Keokuk Medical College in 1895. He was a member of the Kansas Medical Society.

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### MEDICAL SCHOOL NOTES

Dr. R. L. Haden attended the Michigan State Dental Society at Detroit.

Professor Dr. Arthur Schuler of Vienna, who has been doing research work on disease of the skull for the past 20 years, was a guest of Dr. A. L. Skoog at the Medical School on April 28, 1926, and gave a very interesting talk to the students.

Dr. R. L. Haden was the winner of the Bronze Medal for his exhibit on "Focal Infection" at the recent meeting of the American Medical Association at Dallas.

Dr. R. H. Major attended the American Association of Physicians at Atlantic City and spoke on Liver Extract and Hypertension.

Dr. Walter Stephenson of Caney, Kansas, visited the Medical School recently.

Dr. George Brown of the Mayo Clinic was a recent visitor at the Medical School.

Dr. Wm. Roach, '25, who is interning at

the Cincinnati General Hospital at Cincinnati, Ohio, visited the Medical School on May 12. Dr. Roach will remain in Cincinnati another year and will take special work in Nervous and Mental Diseases at the Cincinnati Sanatorium.

Dr. J. B. Collip, professor of Biochemistry at Alberta, Canada, who is the discoverer of the parathyroid hormone, and one of the sharers of the Nobel prize of 1924 for his work on Insulin, was a recent visitor at the Medical School.

Dr. Paul W. Emerson of Boston, was a guest of Dr. F. C. Neff at the Medical School recently. He addressed the students on the subject of "Dried Breast Milk."

The senior class attended a lecture and lantern slide demonstration given by Dr. Hugh Young, Clinical Professor of Urology at Johns Hopkins Medical School, on April 23, 1926, at the Medical Arts building.

Dr. R. G. Hoskins, editor of "Endocrinology" and president of the American Society of Endocrinology, and Professor of Physiology at the Ohio State University, was a visitor at the Medical School on April 23, and addressed the students on "Some Problems Relating to Glands of Internal Secretions."

Mr. Upshur Smith of Minneapolis recently addressed the students on the "Cultivation and Preparation of Digitalis."

Dr. Ben Morris, '25, of Morland, Kansas, and Miss Ethel Kinlund of the 1923 Nurses graduation class of Bell Memorial Hospital, were married on May 3, 1926.

At the annual meeting of the Kansas Medical Laboratory Association in Kansas City, Kans., on May 5, Dr. H. R. Wahl spoke on "Tissue Pathology," with a Pathological Exhibit, and Dr. Russell L. Haden spoke on "Classification of Anemias" with illustrations:

Dr. B. R. Parker of Mayo clinic, formerly of South Africa, was a recent visitor to the Medical School.

Dr. H. R. Wahl will give a short address to the graduating class of nurses of Providence Hospital, Kansas City, Kansas, on May 12, 1926.

On Tuesday, April 20, Dr. R. D. Irland addressed the Jackson County Medical Society on "Treatment of Boils and Carbuncles With Magnesium Sulphate."

Dr. F. C. Teachenor presented a paper to the Jackson County Medical Society April

27, on "Intracranial Complications following Fracture into the Frontal Sinus."

Dr. F. C. Neff read a paper before the Jackson County Medical Society on May 4 on "The Early Diagnosis and Treatment of Acute Infantile Paralysis."

At the recent meeting of the American Medical Society at Dallas, Dr. H. R. Wahl was elected vice-president of the Section of Pathology and Physiology.

Dr. C. C. Dennie addressed the Kansas City Social Hygiene Society on the subject, "The Recent Advances in the Diagnosis and Treatment of Syphilis," May 18, 1926.

At the May Monthly Clinic of the Kansas City Clinical Society on May 11, 1926, the following members of the staff were on the program:

Dr. M. J. Owens—Surgery of the Gall Bladder; Suppurative Peri-carditis.

Dr. George M. Gray—Jaundic, Painless Thoracic Emypema.

Dr. L. F. Barney — Demonstration of Spinal Anaesthesia; Acute Appendicitis, Post Operative Complications; Hepatic Syphilis with Portal Stasis.

Dr. C. C. Nesselrode—Surgical Management of Thyroid Disorders; Radiographic Visualization of the Vascular Tree As a Surgical Aid in Thrombo-Angiitis Obliterans; Fracture of the Skull.

Dr. P. M. Krall—Medical Management of Thyroid Disorders; Thrombosis of Portal Vein; Peri-carditis with Effusion.

Dr. F. C. Helwig—Experimental Mouse Cancer.

Dr. Sam Roberts—Functional Condition of Larynx Due to Hyperthyroidism; Discussion of Para Nasal Surgery.

Dr. A. L. Skoog—Epilepsy (Focal.)

Dr. J. R. Elliott—Joint Tuberculosis (Five Cases), Open Reduction; Dislocation of Shoulder.

Dr. E. T. Gibson—Encephalitis, Parkinson's Syndrome.

Dr. L. G. Allen—Visualization of the Gall Bladder.

Dr. L. L. Bresette—Tuberculosis of Serous Membranes.

Dr. L. B. Spake—Para Nasal Surgery in Children, Results (Slide Demonstration).

Dr. J. E. Walker—Differential Diagnosis Mono Nucleosis—Leukaemia.

Dr. A. E. Hertzler read a paper before the Tennessee State Medical Society at Memphis, Tennessee on May 11.

Dr. W. Y. Jones of Hutchinson, Kansas, and Dr. James T. Moon of Wagoner, Okla.,



were the guests of Dr. T. G. Orr at the Medical School on May 13.

Dr. H. R. Wahl addressed the students of the University at Lawrence on May 11, on "The Field of Medicine." This was one of a series of vocational talks given to the students.

Dr. F. C. Neff will attend a meeting of the Lincoln County Medical Society at Lincoln, Kansas, on May 21. He will hold a Diagnostic Clinic for Children and will make a public address at night. He will speak on "Prevention of Diseases in Children."

Dr. Edward Huenekens, assistant professor of Pediatrics at the University of Minnesota, was a visitor at the Medical School and addressed the students on "Neutralization of Scarlet Fever and Diphtheria Toxins."

Dr. R. L. Sutton has recently returned from a hunting trip to India and Indo-China, including travels through Japan, China, Cochinchina, Ceylon and Malay States. Dr. Sutton reports a very interesting and enjoyable trip.

The following are members of the Senior Class who expect to graduate in June: Angle, Fred E., Kansas City, Kans.; Barnes, Harold, Hiawatha, Kans.; Becker, L. Harrison, North Topeka, Kans.; Brady, Charles H., Lawrence, Kans.; Brown, Marshall W., Wichita, Kans.; Buikstra, Cyrus R., Ionia, Kans.; Danglade, James H., Kansas City, Mo.; Davidson, Oscar W., Solomon, Kans.; Dellinger, Earl H., Haviland, Kans.; Dyck, Cora E., Moundridge, Kans.; Engel, W. James, Lawrence, Kans.; Goldblatt, Samuel, Kansas City, Mo.; Haley, Jesse R., Brookfield, Mo.; Hook, W. Graves, Kansas City, Mo.; Horton, Ralph, Kansas City, Mo.; Hunt, Paul F., Kansas City, Kans.; Jamison, John H., Idana, Kans.; Jennett, James H., Kansas City, Mo.; Kosar, Clarence D., Ada, Kans.; Kuhlman, Frederick Y., Ozawkie, Kans.; Lewis, Dean, Chanute, Kans.; McCreight, Eugene J., Quenemo, Kans.; McLeod, John, Kansas City, Mo.; Mattheaei, Pearl V., Great Bend, Kans.; Mueller, Ralph E., Forest Lake, Kans.; O'Donnell, Harold F., Ellsworth, Kans.; Pumphrey, Lloyd W., Pittsburg, Kans.; Robbins, Harry E., Topeka, Kans.; Rusher, Robert H., Kansas City, Mo.; Schaffer, Clarence K., Kansas City, Mo.; Schreiber, Fred C., Leavenworth, Kans.; Sechrist, Charles W., Meriden, Kans.; Shelley, Dorothy E., Elmdale, Kans.; Shofstall, Charles D., Kansas City, Mo.; Smith, Gerald W., Pittsburg, Kans.; Smith, Fred-

erick A., Independence, Mo.; Snyder, Cora, Robinson, Kans.; Van Winkle, Arthur J., Lawrence, Kans.; Vincent, Cranston G., Topeka, Kans.; Wood, Lawrence E., Clay Center, Kans.

The Nurses who will graduate are as follows:

Freda Clark, Stockton, Kans.; Fray Goodrich, Columbus, Kans.; Credith Loy, Fredonia, Kans.; Wilda Mitchell, Centerville, Kans.; Florence Perisa, Lawrence, Kans.; Gwendolyn Weber, Parsons, Kans.

## BOOKS

Therapeutics, Materia Medica and Pharmacy by Samuel O. L. Potter, M. D., formerly professor of the principles and practice of medicine in the Cooper Medical College of San Francisco. Fourteenth edition revised by R. J. E. Scott, M. D., New York. Published by P. Blakiston's Son & Co., Philadelphia. Price \$8.50.

The thirteenth edition of this work was published about eight years ago and naturally there are many additions to the list of remedies described and also there are many deletions. The general arrangement of the subjects has been retained. The fact that Potter's Therapeutics has lived through fourteen editions with no loss in prestige is sufficient recommendation.

Diseases of the New-Born, a monographic handbook, by John A. Foote, M. D., Professor of Diseases of Children, Georgetown University Medical School, including chapters by several others. Published by J. B. Lippincott Co., Philadelphia. Price \$5.00.

The author has endeavored to limit this work to diseases, injuries and deformities of the new-born and to include all of these. The subjects are presented more concisely than in the elaborate works on Pediatrics but the reader will not be disappointed in that, for the descriptions are clear and explicit. There are a sufficient number of good illustrations to aid in understanding the text.

The Surgical Clinics of North America (Issued serially, one number every other month.) Volume VI, Number II (San Francisco Number—April, 1926.) 250 pages with 73 illustrations. Per Clinic year (February, 1926 to December, 1926.) Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

The reader will find some very practical things in this number of the clinics. Rixford discusses fracture of the patella, Noffziger describes the surgical risks in cerebral anemia and Hinman reports some experimental study of the pathogenesis of hydronephrosis. Eloesser presents a very interesting article on intrapleural pneumolysis. Ely presents a clinic on Dupuytren's contraction,

one on hallux valgus and one on hammer toe. Enige has a paper on the symptomatology and diagnosis of varicose veins of the female pelvis. Searles presents cases of traumatic pneumothorax.

There are many other equally interesting papers in this number.

The Surgical Clinics of North America (Issued serially, one number every other month.) Volume VI, Number 1 (Philadelphia Number—February, 1926.) 325 pages with 136 illustrations. Per clinic year (February, 1926 to December, 1926.) Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

One of the articles in this number that must appeal to the reader is by W. Wayne Babcock on demonstrations of spinal anesthesia which is followed by a series of surgical clinics. Ferguson presents a cystogram study of cystocele and prolapsus. Norris has a clinic on carcinoma of the cervix. There are numerous clinics by Jopson of the Presbyterian Hospital. Gill, Orthopedic Hospital, presents several clinics. There are reports also from the clinics of Edward J. Klopp, Jefferson Hospital; Thomas, Birdsall and Harrison, Polyclinic Hospital; Pfeiffer and Smith, Methodist Hospital; Behrand, Jewish Hospital; Schumann and Keller, Frankfort Hospital; Beltram, Misericordia Hospital; Eliason, University of Pennsylvania; Clerf, Chevalier Jackson Bronchoscopic Clinic.

Medical Diagnosis for the student and practitioner by Charles Lyman Greene, M. D., formerly Professor of Medicine and Chief of Medical Clinic in the University of Minnesota. Sixth edition revised and enlarged. Published by P. Blakiston's Son & Co., Philadelphia. Price \$12.00.

In this edition many changes will be found. Some new diseases have been included. Several sections have been extended. A great many new and modern tests in various subjects are described. Among the new illustrations that have been added will be found two new series of cardiograms and polygrams. Apparently every thing has been added necessary to make this work complete in all its details.

Handbook of Diseases of the Rectum by Louis J. Hirschman, M. D., Professor of Proctology, Detroit College of Medicine. Fourth edition revised and rewritten. Published by C. V. Mosby Co., St. Louis. Price \$6.50.

The author has endeavored to supply a treatise on proctology that will meet the needs of the general practitioner. In this book he has pointed out the methods of diagnosis and carefully explains the treatment of those conditions which can safely be treated in the office and has described only those operations which can be done under lo-

cal anesthesia. The book is excellently illustrated. The demand for it has been sufficiently encouraging to warrant its fourth edition.

Modern Methods of Amputation by Thomas G. Orr, M. D., Professor of Surgery, University of Kansas. One hundred twenty-five illustrations. Published by C. V. Mosby Co., St. Louis. Price \$3.50.

The author has described those methods of amputation that insure good functional results rather than good operative results where both may not be anticipated. He has also had in view the possibility of standardizing amputation technic and has directed his efforts toward that end. The operative procedures are carefully illustrated by numerous photographs and accurate drawings. A chapter is given to the description of artificial appliances and their application.

Pocket Cyclopedia of Medicine and Surgery, Gould and Pyle's, third edition, revised by R. J. E. Scott, M. D., New York. Published by P. Blakiston's Son & Co.

This is a little more than a pocket medical dictionary in that it gives something in the way of description of the disease mentioned and suggests various remedies that may be used in treatment.

Young's Practice of Urology. Based on a study of 12,500 cases. By Hugh H. Young, M. D., and David M. Davis, M. D., John Hopkins University. With the collaboration of Franklin P. Johnson. Two octavo volumes totalling 1484 pages with 1003 illustrations, 20 being color plates, by William P. Didusch. Philadelphia and London: W. B. Saunders Company, 1926. Per set: Cloth, \$25.00 net.

The first chapter deals with the physiology and pathology of micturition. This is followed by a chapter in which are described all the lesions due to obstruction of the urinary tract with careful consideration of the pathology in each instance. The third chapter covers the subject of urogenital infections and infestations. This will give some idea of the arrangement of the subject matter. The work is based upon an analytical study of the clinical histories of some 12,500 cases coming under the personal observation of the authors. Naturally the conclusions are drawn from rather a personal viewpoint, but a viewpoint founded upon an unusually extensive experience. The illustrations are numerous and carefully prepared.

Sixty Years in Medical Harness by Charles Benevlyn Johnson, M. D. Introduction by Victor Robinson, M. D. Volume I of the Library of Medical History. Published by Medical Life Press, 12 Mt. Morris Park, West, New York. \$3.00 postpaid.

This story of a long period of general practice is typical. It could be repeated in



all its essential features by hundreds of others of the older practitioners. Nevertheless it is distinctly an addition to the history of medicine. Those who themselves experienced the vicissitudes of the early day practice will enjoy and appreciate this story; those who entered practice under modern conditions will find much of interest and much that is instructive in the author's experience.

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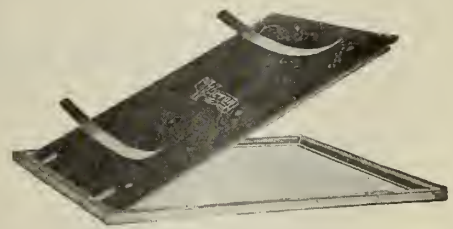
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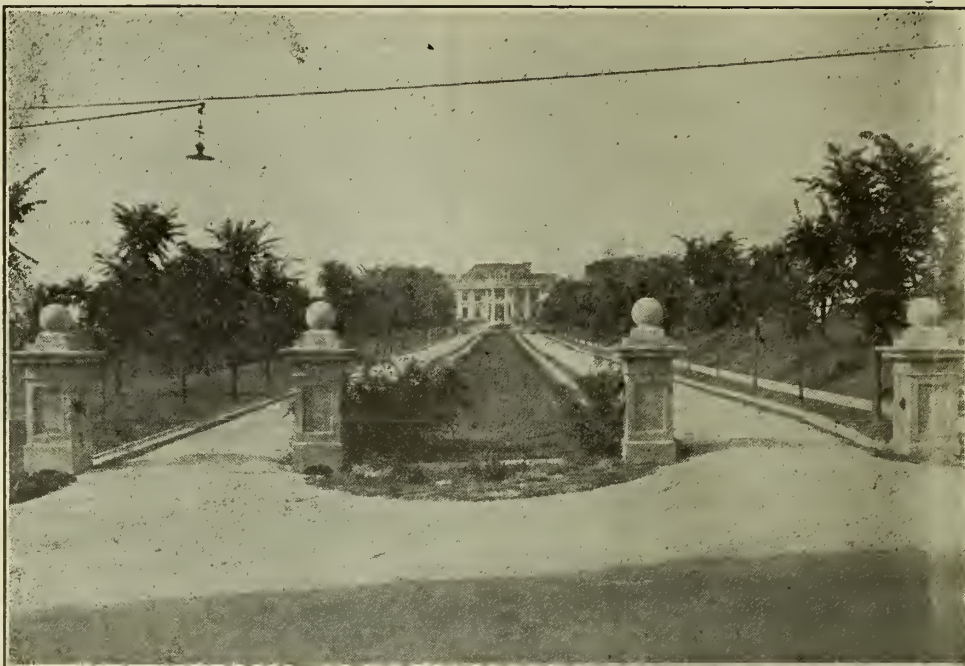
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# THE JOURNAL

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### General and Local Rest in the Treatment of Pulmonary Tuberculosis

H. C. GOODSON, M. D.

Colorado Springs, Colorado

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, Kan., May 4-6, 1926.

In presenting this subject before your society I do so with no attempt to add anything new to the already voluminous literature on the treatment of pulmonary tuberculosis. However, with such quantities of literature at our disposal, it seems that more difficulty has arisen in being able to cull the salient points of any particular subject without more or less confusion and misunderstanding. Also with our desire to treat disease with new specifics we all at times may be inclined to minimize the importance of neglected truths and already proven therapeutic procedures. This is especially so in the treatment of pulmonary tuberculosis. New cures are brought out with such rapidity that one hardly becomes acquainted with one before it is discarded and another is brought forth to take its place. It is due to this that an extreme skepticism prevails among the profession regarding any specific cure.

Pulmonary tuberculosis is a curable disease. Healing takes place through absorption of deposits which can be followed by the x-ray; and by fibrosis and calcification which can be demonstrated at the autopsy table in the majority of all post mortems, regardless of the cause of death.

Before the advent of sanatorium treatment pulmonary consumption, as it was called, was considered an incurable disease. Then a diagnosis was not made until a hopeless condition was reached but many cases recovered not knowing that they had tuberculosis. Many forms of treatment were used, all with the same bad results, but they all insisted on using exercise with the false idea that they might keep up their strength, increase their appetite, and improve their general well being. While this was the trend of belief, there were some who did not entirely agree. Dr. Thomas Reid<sup>1</sup>, in an essay on "The Nature and Cure of Phthisis Pulmonalis," written in 1785, made the following statement, "It is well known to every

practitioner who has been conversant with complaints of this kind that the exercise of riding on horseback unassisted by other remedies never cured the phthisis pulmonalis; on the contrary, the indiscriminate use of this exercise, has, I am convinced, very frequently aggravated every symptom of the disease." While this should have been enlightening, there were many others evidently with an adverse opinion, but working in ignorance so far as the etiology of the disease was concerned, it had no general effect. The usual advice was to breathe deeply to develop the lungs, ride horseback, walk long distances, etc., etc.

It seems that very little advance was made until Brehmer opened the first sanatorium in Germany in 1853. While Brehmer advocated exercise, his instructions were so explicit in advising his patients to avoid all fatigue, to walk only while rested and always rest before they felt tired, that it really was a modified rest treatment. He was partially successful in his results, but the profession was so convinced that tuberculosis was incurable that he was considered a charlatan and did not make much progress in getting his methods accepted.

Dettweiler, first a patient and later an assistant to Brehmer, is regarded as the originator of the rest treatment. He introduced the use of prolonged rest in reclining chairs. He was the first to advocate absolute rest in combating fever. He advised breathing exercises as he attributed the improvement to the open air rather than the rest to the lungs and body.

Both these men used a modified rest treatment, but the greatest thing they did was to demonstrate to the world that consumption is curable.

It was through the experience of these men that the movement was launched in this country through Dr. Edward L. Trudeau, who had developed an active tuberculosis, and gone up into the Adirondacks to acquire what benefits might be obtained by the change from New York City. Having read of the work of Brehmer and Dettweiler, he followed their methods and to the surprise of himself and friends recovered sufficiently to practice his profession. Inspired by what he had done for himself

he opened the Adirondack Cottage Sanatorium in February, 1885, for the benefit of others. While Trudeau advocated the importance of rest, fresh air got most of the credit, and exercise seemed to play an important part in the treatment.

After this, progress was more rapid. Sanatoria were being constructed throughout the country and good results were being reported. Graduated exercise played an important part in the treatment, but was prescribed much too soon and to too great an extent, producing serious febrile reactions, the theory being that these reactions caused an "auto inoculation" which had a beneficial effect. The number of beds in public sanatoria were insufficient to care for the applicants, so the time limit was cut short to make room for the incoming patients. The good results derived, even though the accommodations were inadequate, cannot be denied, as many were able to continue the treatment after leaving the sanatorium. Many were not benefited, however, who would have been, if their rest treatment could have been continued for a longer time. The tendency recently in most public sanatoria has been to increase the time limit with a corresponding increase in good results.

Physiologically, periods of rest alternating with periods of physical and mental activity occur in the normal human being. These periods of rest and activity come on with a certain definite regularity, and one might conclude that any dissipation in over activity with a corresponding decrease in the proper rest would increase catabolism, thereby lowering the body resistance to infection. If the tearing down process exceeds that of the building up process, eventually a breaking point will be reached. This is one of the main factors in the etiology of tuberculosis. Tuberculosis has a marked catabolic influence, demonstrable in various symptoms, mental or body fatigue, loss of weight, lowering of blood pressure and an increase in the metabolic rate. Any physical or mental exertion would only add to this catabolic influence. From these facts it seems reasonable to surmise that rest or avoiding of fatigue would only have a good effect in building up a body weakened by tuberculous infection.

Very few understand the chronicity of tuberculosis. There is more or less criticism that the rest treatment is overdone. Recently an article by Webb<sup>2</sup> on "Prolonged Rest and the Absorption of Deposits in Pulmonary Tuberculosis," demonstrated with x-ray plates, from which I quote, shows the absurdity of such a criticism: "Rest in

pulmonary tuberculosis should be prolonged many months after the temperature and pulse have become normal and sputum has disappeared. The tuberculous deposits shown in the illustrations have in general started to clear away after six months of rest, but have not been completely absorbed until from two to three years." The harm from too early exercise is apparent and a normal temperature alone cannot be depended upon as an indication for exercise. Every symptom and sign with the x-ray along with the elapse of a sufficient length of time, must be our guide. The length of time necessary for the healing of an active lesion with tubercle bacilli in the sputum requires years rather than months. From all appearances, and ability to do things, a patient may seem well, but his activities must be limited and he should not attempt to enter a normal life without his periodical rest to the extent of avoiding fatigue, for many years or possibly the rest of his life. The employment of rest may be absolute bed rest as would be employed in typhoid, or may be any degree of lessened activity ranging from absolute bed rest to the activities of a normal person. The degree of rest to be enforced depends entirely on the individual. The plan adopted by Larson Brown, to put every patient to bed rest for a period of six weeks is to be commended. This allows sufficient time for observation so that if any change in ones advice is desirable, it can be prescribed with more assurance. The reactions in the tuberculous are to be avoided if possible.

In making a plea for more thorough and longer periods of rest in treating tuberculosis, I do not mean to discredit other therapeutic measures of unquestioned importance. Fresh air, climate, dietetics, heliotherapy, and the symptomatic treatment of the various tuberculous symptoms and complications may hold the balance in some cases, but without the adequate enforcement of rest they are usually of no avail. Krause<sup>3</sup> puts the following question, "Who is there among us that would not put his money on the tuberculous patient living at perfect rest—physical and mental rest—in a close room rather than on the same person wielding a pick and shovel beyond his capacity in all out doors?"

The use of *local rest* in the treatment of tuberculosis is not an innovation but its greatest usefulness has been brought out recently. Various degrees of local rest can be produced by the use of posture or various mechanical devices, by breathing more superficially and less frequently, by artificial



pneumothorax, by paravertebral thoracoplasty, or by phrenicotomy.

Immobilization by means of casts, splints and rest in the treatment of extrapulmonary tuberculosis, has been enforced for many years, resulting in the healing of these various tuberculous processes. So immobilization of a lung, or an approach to it, would suggest itself in the treatment of pulmonary tuberculosis.

*Artificial Pneumothorax* is probably the greatest single therapeutic or mechanical procedure discovered in the treatment of pulmonary tuberculosis, and a review of the literature discloses views somewhat changed and modified compared with our knowledge at the inception of this treatment.

Forlani, of Italy, probably was the first to put it in use in 1892. It remained, however, for Ludolf Brauer, of Hamburg, Germany, to put it in general use, but it was as late as 1912 before it was taken up by the various sanatoria and phthisiotherapists in this country. At the present it is used in a greater variety of cases with much better success than it was then.

Methods of its administration have changed somewhat, and the technique has become more perfected, so that the dangers of some of the previously dreaded complications have been lessened.

Pleural effusion occurs quite frequently if treatment is continued over a sufficient length of time but it is to be expected rather than feared and in itself is not of any serious moment, unless the effusion becomes purulent. A decrease in this complication can be brought about by administering a small pneumothorax or so-called expansile pneumothorax, by injecting smaller amounts of air more frequently, and maintaining a negative pressure.

Empyema may clear up by repeated aspirations and simple irrigations, provided a bronchial fistula is not present, and open drainage is not resorted to. However, in some it will persist in spite of all methods of treatment, including the various dyes and formalin and glycerine preparations.

Spontaneous pneumothorax occurs in about three per cent of cases, and is a serious complication. It will clear up in some few, but in many is a terminal condition. Undoubtedly many empyemas are the result of small spontaneous ruptures. It is less serious if many adhesions are present, allowing only a small pleural space.

Pleural shock is avoided by careful and thorough anesthesia extending into the parietal pleura.

Air embolism probably the most dreaded, but fortunately a very infrequent accident,

is preventable by obtaining a negative manometric reading with free oscillation before the injection of air.

Progression of disease in the contra-lateral lung is not an infrequent problem to deal with. In selecting cases it is the exception rather than the rule, to obtain strictly unilateral cases. The opposite lung must be carefully watched by physical examinations and x-ray. This unfortunate condition is best met by less frequent and smaller injections or in some a discontinuance of the treatment. Strict co-operation on the part of the patient is essential.

Active disease in the better lung is by no means a contra-indication. Pneumothorax should be induced more cautiously, injecting smaller amounts maintaining only a partial collapse. During this time the condition of the opposite lung must be carefully watched and more or less air injected accordingly. Often the disease in the contra-lateral lung will improve under this judicious treatment.

Hemoptysis may be controlled by its use. If it should be used for this purpose successfully, and there are no contra-indications for its continuance, it should not be discontinued after the subsidence of hemorrhage.

Every patient with an active pulmonary tuberculosis, who does not improve rapidly, and one in whom there is considerable doubt as to the ultimate outcome, should be considered suitable for artificial pneumothorax. It is true that a great many of these will not be good cases on account of extensive bi-lateral involvement, or various other complications. There will be about twenty per cent of these selected cases that will be unable to take the treatment on account of pleural adhesions.

Tuberculosis of the larynx, intestines, or kidneys, or of any other organs or tissues, is not necessarily a contra-indication unless grave enough in character to make the prognosis decidedly unfavorable. Often a tuberculous larynx or tuberculous enteritis will improve following artificial pneumothorax, if the condition of the lungs is favorably influenced by its administration. However, the indiscriminate administration of pneumothorax, especially in the hopelessly ill, is only to be condemned, as it discredits an otherwise useful therapeutic procedure.

Pregnancy in the tuberculous has been carried through to a successful termination by the aid of artificial pneumothorax.

All tuberculous patients should be allowed sufficient time to improve under ordinary methods, but there is a large number who will improve to a certain point and then remain stationary or retrogress. Many of

these will be restored to health by pneumothorax.

There is no use in waiting until the patient becomes far advanced before starting treatment. The farther advanced a case may be the more likelihood there is of extensive pleural adhesions, either making a pneumothorax impossible or only partially successful. The early case is more amenable to treatment, and results will be more rapid, materially lessening the length of time the treatments should be continued. It will restore a patient to a self-supporting basis sooner and much more certainly than could possibly be expected under the ordinary methods.

I do not mean to discredit its use in the far advanced. Often it is their only hope. Cavitation, with large amounts of sputum, should always be compressed if possible, thereby lessening the danger of aspiration infection into the better lung. Cavities will be compressed and in many cases will heal. Fibrosis is not a contra-indication. Many far advanced cases are given pneumothorax to prolong life even though a permanent benefit cannot be expected. Treatments must be continued over a longer period of time in this class of patients. Compression treatments with high positive monometric readings are essential to get the required result due to the tough adhesions and fibrosis in the far advanced.

There are a certain few who should be given the benefit of bilateral pneumothorax. A patient doing badly in whom the involvement in both lungs is about equally active and distributed, provided the bases are fairly clear, should be studied with this in mind. The strictest co-operation from the patient is essential. He must be of the right temperament, and be willing to remain at bed rest for several weeks or months, as each individual case may demand. The method if procedure, as advised, is to inject the most active side first, as this side is usually of more recent origin and more likely to be activated. Small injections should be given frequently in the selected lung, maintaining only a partial collapse with strong negative monometric readings. After a month or six weeks the second side should be injected, two or three days having elapsed since the last injection of the first. Injections should be given frequently with small amounts, always maintaining a strong negative pressure as on the first side. Each side is then studied separately and injections given accordingly. Many good results have been reported and I feel that its use should be encouraged more in carefully se-

lected cases under the most careful supervision.

*Surgery* in the form of phrenicotomy and thoracoplasty is taking a prominent place in the treatment of pulmonary tuberculosis.

*Phrenicotomy*, the excision of a section of the phrenic nerve, where it lies superficially in the neck, produces a paralysis of the half of the diaphragm in which it is removed. I understand it is not a difficult operation. It allows half the diaphragm to become elevated and immobilized, materially lessening the space and limiting the respiratory action on one side of the chest. It is used in conjunction with artificial pneumothorax or thoracoplasty when further compression and limitation of function is desired, or alone, for an extensive basal lesion. Its usefulness cannot be doubted and deserves careful consideration in a few selected cases.

*Extra Pleural Thoracoplasty* as performed now, is the resection of portions of ribs close to the vertebra. It allows a falling in of the chest wall, compressing the lung on that side. It is applicable to a small percentage of cases, but in the aggregate, quite a large number. It is indicated in as near unilateral cases as can be selected, usually in which artificial pneumothorax has been a failure, and in which there seems to be no chance of improvement under more conservative methods. It is a major operation, usually performed in two or more stages. The mortality rate is high, due largely to the far advanced and often hopeless condition of the patient. The results, in a fair number, are spectacular often restoring an otherwise hopeless individual to a life of usefulness, and in that it is usually a last resort operation the good results would offset some of the bad ones. It has a very definite place in tuberculous therapy. I know of no other surgery, in which the co-operation of the chest man and the surgeon is so essential as it is in the success of this operation. The advisability of such an operation is in the hands of the chest man and the whole procedure is more or less under his direction. The post-operative treatment should be under his care for many months, the main feature of which should be prolonged rest under the best possible conditions. The immediate result may seem satisfactory but a progression of activity, being slow, may not become apparent for many weeks. There is no backing up should infection spread to the opposite lung, after the operation is once performed, as can be done in artificial pneumothorax.

The greatest recent advance made in the treatment of pulmonary tuberculosis has been accomplished through the utilization of



therapeutic methods, none of which are new, but which gradually have been improved to their present degree of efficiency. A better knowledge of general and local rest, more than any other means, is the basis upon which this advance has been made.

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### The Radiographic Evaluation of the Pulmonary Tuberculosis Lesions

LEWIS G. ALLEN, Kansas City

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Two years after Pasteur's emancipation of the scientific world, in 1860, by the announcement that no such thing as spontaneous generation existed, J. A. Villemin published his first treatise on tuberculosis, under the title, "The Tubercle from the Viewpoint of its Location, its Development, and its Nature." In 1867, he gave his researches and studies to the world in book form, under the title, "Studies on Tuberculosis," "Rational and Experimental Proofs of its Specific Nature and its Inoculability." Although Koch's discovery of the tubercle bacillus did not occur until 1882<sup>14</sup>, Villemin described the histology of the tubercle and proved the inoculability of the disease as we know it today only seven years after the proof of the fallacy of spontaneous generation. Since that period the scientific world has struggled to discover new and evaluate the existing signs and symptomatology of pulmonary tuberculosis.

The radiographic study of the chest, born immediately before the World War and developed especially during that period, is rapidly assuming a position of first importance in the study of pulmonary tuberculosis.

It is not the opinion of the writer nor the dictum he intends to recite in this article that the radiograph should supersede or replace any existing effort or efforts in the clinical investigation of the tuberculous patient, but on the other hand to discuss the more exact evaluation of shadows cast by the pulmonary tubercular lesion, in their faithful record on the radiograph, and some technical factors entering the problem of their correct interpretation.

The tubercular lesion occurring in the parenchyma of the lung occluding the air cells at the site of involvement and surrounded by air contained cells, registers on the radiograph by a series of shadow den-

sities, in strict compliance with the modern conception of the pathology of the disease.

If we take a brief word picture of the unit of acute pulmonary tubercular infection, the isolated tubercle, occurring in the lung parenchyma, we recall the central caseous area, the tuberculous material of Virchow, surrounded by a band of cellular hyperplasia and lymphoid infiltration, the whole enveloped by a zone of vesicular hepatization.

Contrast the end result of repair beginning with resorption of exudation, organization, fibrous tissue in growth, and contraction with possibly the precipitation of calcium within the central contracting mass, the entire lesion surrounded in the end by perfectly normal air cells.

The projection of the two assumed lesions, radiographically, should and do present entirely different pictures. The presence of the zone of inflammation in the one lesion accounts for the softness of detail observed, and the absence of the same in the repaired lesions explains the sharpness with which the lesion is registered on the film.

It is apparent therefore that the detail evaluation of the radiographic shadows cast by the tuberculous chest constitutes our problem as to type, extent of involvement, prognosis, progress, regression, and repair. By the result of the observation by repeated clinical and radiographic examinations of one hundred forty-one tuberculous soldiers observed over a period of three and one-half years<sup>1</sup>, Pirie showed that the x-ray findings were well in advance of the clinical manifestations in the case of either progress or regression of the disease. The presence of calcium in the root lung shadows or better in the lung parenchyma constituted the most constant favorable prognostic finding. The diminution of the heart size in Pirie's series was an unfavorable finding. The wide distribution and extensive involvement of this disease of course is of basic importance from the standpoint of prognosis.

The absorption of tuberculous exudate may change a desperate to a more favorable prognosis is the conclusion of Dunham<sup>2</sup>, based on study of thirty-five correlated autopsies and radiographic findings. He believes that the caseous tubercle can heal by resolution and finally disappear completely.

The claim by some that<sup>3</sup> pyogenic infections, secondary to initial pulmonary tuberculous lesions, are relatively more radiographically opaque than the tuberculous shadows is hard to justify on the basis of pathology and air cell occlusion.

Ring shadows after excluding bronchi-

ectasis in patients with positive sputum must be considered cavities. Instances of suspected cavities, Weigel<sup>4</sup> holds, the burden of proof must rest with opponents to the existence of cavity formation. In his series of one hundred twenty-five patients with one hundred twenty-five cavities, 2x2 cm. or greater in size, only twenty-six or 14.8 per cent, were diagnosed on physical examination alone. He concludes that history, clinical and laboratory findings when correlated with x-ray findings, constitute the only means of diagnosing cavities.

All cases of disseminating pulmonary tuberculosis of hematogenous origin (miliary tuberculosis) are to be considered a single type, despite the variety of clinical pictures and outcome, although frequently the clinical picture is very mild, sometimes indeed hardly suggesting a pulmonary condition, the radiograph clearly reveals an almost uniform seeding throughout the lung area. The initial miliary lesion in miliary tuberculosis is of course of microscopic size at its very inception. Conglomeration or extension by continuity soon occurs and is readily recognized radiographically.

Sante<sup>6</sup> showed by serial radiographs taken at intervals during the course of the miliary type of disease that individual lesions never reach the size of infiltrations found in broncho-pneumonia. Furthermore, the peritoneal or meningeal type may often occur without a single pulmonary lesion demonstrable at autopsy, the patient nevertheless having died of miliary tuberculosis.

That miliary tuberculosis may heal completely is now a general belief among radiologists. Occasionally, one finds in routine examination a chest densely stippled with shot-like opacities from whose character of distribution and appearance healed miliary disease seems the only logical conclusion. Our records show eight such cases observed during the last three years. Blaine<sup>7</sup> first called attention to the type described in an article published in 1923. The writer recalls his first case seen soon after the close of the war, in a patient eighty-six years old who remonstrated when x-ray examination of his chest was suggested with the statement "nothing can be the matter with my chest, or I would have died when I had lung fever when I was eighteen years old."

Contrasting in type of involvement with the miliary disease is the acute pneumonic type often referred to as the exudative form, in which no suggestion of nodule or tubercle formation is seen radiographically. Large areas of the lung may be involved and its distribution may be either lobar or lobular. The process is an extensive exudative

air cell occlusion and is as a rule the precursor of wide caseation, though it may occasionally undergo primary resolution. It registers radiographically as large homogeneous somewhat triangular shadows. The lesion is often unilateral and it is to this type located usually in the lower one-half of the upper lobes which Pottenger<sup>12</sup> refers to as being most favorable for the employment of artificial pneumothorax.

Fibroid changes classify as to type by far the majority of radiographic demonstrable pulmonary changes. It must be kept constantly in mind that fibrosis is the primary method of repair in any pulmonary pathology. Lewis Gregory Cole, in his motion picture on pulmonary tuberculosis, refers to the tremendous economic and social loss as the result of erroneous diagnosis of tuberculosis based on pulmonary fibrosis alone. He thoroughly disagrees with Trostler<sup>16</sup> in his radiographic studies in pulmonary reaction to large doses of tuberculin.

Simple accentuation of pulmonary markings does not justify the diagnosis of early tuberculosis, and by the same token an increased pulmonary fibrosis alone is but one factor to be considered in the pulmonary radiography. Pulmonary fibrosis is not a disease but the result of a previous pulmonary disease or irritation.

Davis<sup>8</sup> classifies the causes of pulmonary fibrosis due to infection as tuberculosis, pleurisy or empyema, pneumonia, abscess, syphilis, infarcts, and mycotic infections; while those due to irritation include pneumoconiosis as: Anthracosis, siderosis, and silicosis, cardiac pneumofibrosis, repair following the occlusion of a bronchus, and the effects of x-ray treatment of the chest. In addition, he points out that the morous tissue in growth which accompanies the healing of tuberculosis sometimes exceeding the requirements, giving rise to true pulmonary fibrosis.

Pancoast<sup>9</sup> considers tuberculosis and pneumoconiosis as the two most frequent causes of fibrosis. Fortunately we in the middle west see little of the latter, excepting the few miners and cement plant workers. The recent interesting work of Lyter explains the confusing similarity of distribution of shadows in silicosis in the lungs to that seen in tuberculosis.

One remaining type of tuberculosis in pulmonary manife. . . namely, glandular tuberculosis, the variant to classical scrofulous cervical involvement. Glandular involvement is present to some extent in all cases of pulmonary tuberculosis. Until recently it has been considered that tracheo-



bronchial adenopathy was found only in children, and in an endeavor to explain this frequency the statement is often repeated that infection in the adult is often the result of reinfection. Sirguit<sup>10</sup>, Durand, and Cottenot have proven by autopsy records that accompanying gland infection is often seen in young adults. They conclude further that gangliopulmonary type does not always show symptoms of tuberculosis.

Dunham<sup>11</sup> and Slovlem declare that hilum and peribronchial tuberculosis are terms born of a false conception of the pathogenesis of pulmonary tuberculosis. They hold that the infection of the lung in a child is accompanied by little change in the parenchyma while great reaction occurs at the regional lymph nodes. On the other hand, infection in the adult shows little lymph node reaction, but massive reaction with extensive exudate at the point of inoculation. This belief is rational and in their opinion has firm foundation in anatomy, pathology, and allergy.

Thus, if we strip the classification of pulmonary tubercular lesions to three gross types, omitting in our consideration the many important subtypes, in the brief review above, we can conclude that exact evaluation of the pathological stage of the infection can be rather precisely evaluated radiographically.

The most important consideration is the sharpness with which the lesion is delineated, the infiltration at the periphery of the lesion causes the soft blurring of the acute tubercle; and the lack of this inflammatory change in the chronic tubercle, explains the sharpness with which it is projected.

A thorough understanding of the method used in making the radiograph is necessary for intelligent interpretation. The interpreter must be able to correctly ascribe the cause of the lack of sharpness observed in any radiograph under consideration; for by far the greater amount of the blurred shadows seen on the average film are technical rather than pathological.

An article by Simon<sup>17</sup> has been quoted in which he reports twelve cases erroneously diagnosed as tuberculosis and sent to his sanatorium. He places the error at the door of a misinterpreted radiograph, holding that the films were made with too soft a tube, thereby causing shadows to appear in the upper chest which simulate a productive lesion.

It is the writer's opinion that such is a physical impossibility. It is entirely possible that a radiograph could be made with so little penetration that only the outline of the chest would be visible, lung markings

not being registered thereon, but no mysterious factor enters the procedure which would explain the manufacture of the tuberculous lesion shadow.

Six chief causes of technical blurring of detail in the radiograph will be mentioned: First, experiment has shown that the distance of the tube target from the film must be forty inches or more, that unreliable shadow magnification will not result. The bundle of x-ray which reaches the plate arises from the focal spot on the anode or target of the tube and is projected therefrom as a cone of diverging rays; consequently, if the source of the radiation is close to the film, the shadow cast will be larger than the object casting the shadow. The distortion will vary in direct proportion to the distance between the object casting the shadow and the film on which the shadow is registered.

At no point are the rays emitted from the tube parallel and some magnification is present always; however, distances greater than seventy-two inches make no appreciable difference in the size of the heart shadow.

The disadvantage of the greater distance is the corresponding increase in the time of exposure or the greater energy which necessarily would have to be applied to the tube in order that correct radiation intensity be maintained. At forty inches only slight distortion occurs and permits relatively short exposure time.

A second cause of distortion, then, is the length of the exposure. Immobilization is obviously essential. Respiration can be voluntarily suspended but the shaking of the contents of the chest can only be defeated by rapid exposure. If we take as an example a pulse rate of one hundred twenty per minute in a frightened patient, two complete cardiac cycles occur each second. Therefore, an exposure of one-half second would cover a complete cardiac cycle. During this interval the vessels of the lungs which primarily account for the linear<sup>16</sup> markings of the lung fields would undergo complete pulsation, the heart would move through its complete cyclic range, and all shadows within the chest would be correspondingly blurred in outline; consequently, the shortest exposure time possible must be used, one-tenth second as a maximum in the experience of the writer. Even at this speed one is often struck by the difference in sharpness of a stereo pair of plates, the one appearing much the sharper than its mate. The obvious explanation is that in the one the exposure time covered a fraction of the cardiac cycle in which greater

movement was present while the other occurred during comparative cardiac rest. The recent advent of a new x-ray tube capable of passing larger currents has assisted materially in this respect.

The location of the lesion in the chest must be determined by stereo study before attempting minute evaluation of sharpness of outline. From what has already been said relative to sharpness of the shadow of objects in relation to their distance from the film, it follows that similar lesions located near the anterior chest wall will be somewhat sharper than those situated near the posterior chest wall, providing the anterior chest is against the plate which is the position of choice. Ideal images of all parts of the chest cannot be obtained by a single or even stereo pair of plates. Additional radiographs must be made of points under special scrutiny.

A third point which contributes to lack of sharp detail is the size of the focal spot of the tube or the area on the anode from which the cone of radiation is emitted. It is apparent that the nearer this source approaches a point the sharper in the outline will be the shadows cast by the light emitted therefrom. This is a disadvantage possessed by the new tube mentioned above.

A fourth cause of blurring of the shadow on the film is poor contact between the intensifying screen and the film. This contact must be absolute.

Patient's size we will consider as the fifth cause of technical blurring. Secondary radiation or rays which reach the plate from other than the focal spot of the tube account for the lack of good definition in large patients. The amount of secondary radiation will depend on the primary radiation intensity but more especially on the thickness of the chest. The larger the patient therefore the more energy must be applied to the tube or a longer exposure time used. If the maximum capacity of the tube is used for the smaller patient then only an increase in exposure time will compensate for the large.

The sixth and last factor in distortion is the position of the patient. Occasionally it is impossible because of weakness or other reason to make the examination in the position of choice. The patient should be standing or sitting upright in order that abnormal distension of the pulmonary vessels does not occur. This is especially true of plethoric individuals. A wide stretch of the imagination is not necessary to comprehend what happens within the chest when one recalls the appearance of a sick fat individual laid prone on a flat table, the abdomen displaced under costal border,

forbidding diaphragmatic function, the cyanosis of the face, distended jugulars, requested to inspire deeply thereby sucking the maximum amount of blood into the lungs, and then told to hold the pose for the period of the exposure.

These factors discussed above constitute the chief source of error and must be appreciated in the interpretation of any radiograph of the lungs. Each is quite characteristic in its effect on the film and may be readily recognized when appreciated. While they possibly give the initial impression as technical and unimportant they mark the difference between the basis of an intelligent interpretation and uninformed fancy.

The radiograph is the projection of pathology densities on a photographic plate, a pathology no different than when viewed under the microscope, viewed grossly, or interpreted clinically by decrease in resonance, increased fremitus, and characteristic rales. Like all other endeavors of the kind it consists of a single clinical observation, and ranks as such. It is accompanied by a definite, almost measurable source of error, the appreciation of which is just as important as the changes manifest in the tissue as the result of the disease. The degree of precision to which a radiograph of the lungs may be interpreted depends entirely on the ability of the interpreter to assess shadow values in terms of pathology, as projected, by the character of the radiation employed.

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### An Intensive Study of a Small Epidemic of Scarlet Fever at Lawrence, Kansas

NOBLE P. SHERWOOD, M.D., Ph.D. AND  
V. M. AUCHARD, M.D.

From the Department of Bacteriology and the  
Student Health Service of the University  
of Kansas

Read at the Meeting of the Northeast Kansas Medical Society, at Lawrence, Kansas, March 25, 1926.

A comprehensive review of the research that has been done on scarlet fever has recently been published by Dochez (1925). The thoroughness of his work and the accessibility of his report would seem to render a repetition of the literature unnecessary. There appears to be a great deal of evidence to support the following:

1. Scarlet fever is a toxemia due to a toxin produced by specific strains of hemolytic streptococci.

2. The soluble toxin is produced in the nasopharynx or throat at the site of the focus of infection.

3. Specific antitoxin has been produced which when used therapeutically gives beneficial results.

4. The specific strains of the organisms can be identified by the agglutination reaction.

5. Toxic substances, produced in a fluid medium under certain conditions, are used in carrying out a skin test devised by Doctors G. F. Dick and Gladys H. Dick (1924). Many think that positive reactions indicate susceptibility to scarlet fever and conversely that negative reactions indicate immunity to this disease.

6. The specific organisms may be identified by their ability to produce this toxic substance which is called Scarlet Fever Toxin according to the originators of the test.

7. The injection of one-half cubic centimeter of blood serum from a large percentage of convalescents or immune individuals, intradermally into an area of scarlet fever rash will, as a rule within six or eight

hours, blanch the rash. This is called the Schultz-Charlton (1918) blanching test.

8. More recently Rosenow (1925) has suggested the use of the precipitin reaction in examining material from the nose and throat of scarlet fever patients.

These findings would apparently offer working tools which could be used in solving some of the difficult public health problems such as:

1. Early diagnosis of scarlet fever.
2. Accurate diagnosis.
3. Determination of susceptibles and immunes among contacts.
4. Management and release of contacts.
5. Release of patients.
6. Determination of carriers, etc.
7. And perhaps in time, the value of prophylactic immunization..

It would seem that data accumulated in attempting to use these working tools would ultimately settle many controversial points and lead to the determination of their limitation and value.

Accordingly when an epidemic of scarlet fever occurred among the members of a fraternity at the University, it was decided to attempt the following:

1. Supplement the clinical findings with the Schultz-Charlton blanching test.

2. Carry out skin tests on contacts using the toxin produced by a reputable firm which has the approval of Doctors Dick and Dick and a license by the Federal Government.

3. Quarantine all contacts and inspect their throats daily.

4. Make blood agar plate cultures from the nasopharynx and throat of each contact and patient.

5. Separate the contacts into two groups using the results of 3 and 4 as a basis. Thus evidence of inflammation as indicated by inspection or the presence of hemolytic streptococci by culture would arbitrarily place a contact in one group and negative findings would place him in the other.

6. The obtaining of two negative cultures after a reasonable period of observation was decided upon for the release of contacts, providing inspection and other data warranted it.

7. Criteria very similar to 6 is contemplated for the release of convalescents.

8. To study the immunity of those showing positive skin tests by using their serum for blanching tests.

9. Data of an epidemiological nature was also obtained which will be reported first.

There are many gaps in our data due to

circumstances which were practically unavoidable under existing conditions. Many of our plans were imperfectly carried out and some went awry.

The following is a brief history of the epidemic looked at in retrospect:

The fraternity in which the epidemic occurred had a membership of twenty men, nineteen of whom lived in the Chapter house, the other man boarded there. The members will be designated by the letters A to T inclusive. Students C, D, J, L, M, N and R were in Kansas City, Missouri, January 22nd and 23rd. After their return to Lawrence, student D developed tonsillitis and reported to the student hospital January 25th and again on the 26th. His nasopharynx and throat did not clear up until about February 15th according to his statement, still he staid away from the dispensary. He studied with student A and slept with C. Student A first developed a sore throat February 10th and reported to the student hospital dispensary. His temperature was 101°F, there was no rash. A diagnosis of pharyngitis was made and the student was admitted to the hospital as a patient. There was no epidemic of scarlet fever in Lawrence. The student did not develop a rash. He was discharged on the fourth hospital day, February 13th and instructed to report daily to the dispensary. His throat, while improved, continued to be sore. Smear examinations by the hospital technician showed coccus forms and Vincent's fusiform bacillus and spirillum form daily from February 15th to 23rd. On the latter date the smear was negative for Vincent's organisms. The smear examinations on the 25th were negative but the records state that the tonsils were quite enlarged. He states that his hands peeled after leaving the hospital.

Student A slept with B before and after entering the hospital and studied with students C and D.

On February 19th, six days after student A left the hospital, B reported to the dispensary with a severe case of tonsillitis. His temperature was 98.6°F. His throat was painted with mercurochrome and a peroxide gargle used. He was admitted to the hospital February 21st with a temperature of 100°F and a tentative diagnosis of scarlet fever made. The rash was well developed on the 22nd and blanching tests were strongly positive.

Student B had slept with student A and studied with students E, F and G. None of whom developed scarlet fever although they did complain of mild tonsillitis.

The third case was student C who had

studied with students A and D and had slept with D, the first student to develop tonsillitis and pharyngitis. He was admitted to the student hospital March 4th with a diagnosis of scarlet fever and the subsequent findings confirmed the diagnosis.

On March 8th student H was admitted to the hospital and a diagnosis of scarlet fever made and confirmed clinically and by the blanching test. He had slept and studied with student I who did not develop scarlet fever. A few hours after the admittance of patient A, the fifth patient, student J, was admitted and a diagnosis of scarlet fever made and confirmed. Patient J had slept with student N and studied with students K and L, neither of whom developed either sore throat or any symptoms of scarlet fever.

Students N, O, P, Q, R, S and T remained negative clinically although students K, N and P were later in the same room with student A from March 8th to March 16th. Students R and S insist they had sore throats though inspections were negative. The serum from students A, K, N and P were used for blanching tests to compare with the results of their skin tests and throat cultures. Serum from additional individuals which we can call V, W, X, Y, Z and ZR, whose skin tests were known, were also used. Serum X had repeatedly shown ability to blanch a scarlet fever rash. Scarlet fever antitoxin was used as an additional control.

As to other data of an epidemiological nature the following might be noted:

1. Nothing definite can be ascertained as to opportunity of table contacts while eating since the seating arrangements were changed as a rule weekly, and frequently daily, and no records are available.

2. The kitchen help were apparently free from sore throats and other illness.

3. There is nothing to indicate that the house mother developed either tonsillitis or scarlet fever.

4. The dishes were presumably exposed to boiling water after being washed.

5. The milk supply was investigated and was certainly not a factor in the epidemic.

For the purposes of tabulation it would seem desirable to represent the various types of contact observable in this epidemic as follows:

0 degree—presumably not exposed.

1st degree—coming and boarding in the same house.

2nd degree—studying with an individual coming down with scarlet fever.

3rd degree—sleeping with an individual



coming down with scarlet fever.

4th degree—studying and sleeping with patient during incubation period.

#### TESTS AND CULTURES

1. Skin tests were carried out according to the printed directions of the manufacturers of the toxin. Readings were made 22 hours after the test. The interpretations were in accordance with their directions except that the positives were divided into two groups. The faintest sign of pink was read as a slight positive and a definite pink as a positive. No stronger reactions were observed. Readings were made by three physicians to avoid error in observation.

2. **Blanching tests.** Blood was obtained from the median basilic vein of the arm

and centrifuged. One-half cubic centimeter of the clear serum was injected intradermally into an area of scarlet fever rash. Readings were made at 12, 24 and 48 hour intervals. A slight but perceptible blanching was recorded as one plus, complete blanching as a four plus and intermediate degrees accordingly. A zero is used to indicate no blanching. The commercial antitoxin was used in amounts of two-tenths to four-tenths cubic centimeters. These all showed blanching.

3. Cultures from the throat and nasopharynx were made on fresh meat infusion blood agar having a PH of 7.4. Both rabbit blood and human blood in 10% concentration were used. In the table "O" indicates no hemolytic streptococci, "F", a few; and "M," many.

The results of this work may be summarized in Tables I and II.

TABLE I.

Name	Previous History of S. F.	Degree of Recent Exposure	Developed Scarlet F.		Developed Tonsillitis or Pharynx.		Hemolytic Strep. on Culture	Dick Test	Remarks
			Yes	No	Yes	No			
A	?	4	?		+		M	±	Probably the 1st case. Apparently a carrier now. Diag. confirmed by S-C blanch. test. Ditto.
B	+	3?	+		+		M		
C	—	2	+		+		M		
D	—	2+		—	+		F?	—	First to develop pharyngitis and may have infected A and C. Mild tonsillitis.
E	+	2		—	+		O	±	
F	—	2		—	+		O		
G	—	2		—	+		F?	—	Diag. confirmed by S-C blanch. test.
H	—	1	+		+		M	—	
I	—	4		—		—	no culture	—	
J	—	1	+		+		M	—	Ditto.
K	+	2		—		—	O?	—	With A from 3-8 to 3-16.
L	—	2		—		—	F?	—	
M	—	3		—		—	O	—	
N	+	1-2		—		—	M?	—	Ditto.
O	—	1		—		—	F?	—	Ditto.
P	+	1-2		—		—	F?	+	
Q	?	1		—		—	F?	—	
R	—	1		—	+		F?	±	Ditto.
S	—	1		—	+		O	—	
T	?	1-		—		—	F?	+	

TABLE II.  
COMPARISON OF SKIN AND BLANCHING TESTS

Name	Previous History of S. F.	Degree of Recent Exposure	Result of Dick Test	Blanching Power of Their Serum	Remarks
A	Convalescent		±	0	Probably the first case. No rash. Hands showed desquamation.
K	+	2	—	0	
N	+	2—	—	++	
P	+	2—	+	++	
U	+	0	+	0	
V	—	0	—	++	
W	—	0	+	0	
X	—	2	—	++++	
Y	+	0	±	+++	
Z	—	2	—	++++	
ZR	+	0	+	0	
Commercial Antitoxin				++++	

From a perusal of the epidemiological and tabulated data shown in Tables I and II a number of interesting things may be noted. It seems probable that student D had a pharyngeal infection with scarlet fever streptococci and was responsible probably for the scarlet fever cases of patient A who studied with him and student C who slept with him. Patient A was probably responsible for the infection of B since they slept together and may have contributed to the infection of C with whom he studied. At the last examination of his nasopharynx hemolytic streptococci, which we suspect of being scarlet fever streptococci, were obtained in abundance. It seems probable that A had a mild case of scarlet fever without a rash. Since his serum showed not the least property of blanching and the Dick test was positive one might assume that he was quite susceptible. The positive skin test might indicate that the skin was not indifferent to toxic substance supposed to be responsible for the rash. If he didn't have mild scarlet fever and was not the source of patient B's infection, he certainly had abundant opportunity of becoming infected since he slept with B during the latter's incubation period, and studied with C during his incubation period. The skin test was performed on March 6th and read out March 7th which was after patients B and C had developed their rash. "A" at that time was not indisposed although he

harbored many typical hemolytic streptococci in his throat and nasopharynx. His serum was obtained and used for blanching tests on patients H and J, March 8th with negative results when read on March 9th and March 10th. It might be that some blanching would occur if one cubic centimeter of his serum had been used. This is purely hypothetical and will be checked up by titrating with varying amounts of his serum as soon as an opportunity presents itself. The results do suggest that some local mechanism in the throat or nasopharynx may play a role in immunity. As judged by the skin test and power of his serum to blanch, he had not developed demonstrable immunity as a result of his attack and yet he had recovered from the attack indicating that some protecting mechanism had operated. Some local mechanism is suggested concerning student K who had apparently more opportunity for exposure than students H and J, who developed scarlet fever, and yet K failed to develop even a sore throat.

A second interesting observation is that of the 16 students receiving skin tests, five were positive and 11 negative. Of the five positive reactions one was patient A previously discussed and presumably a carrier; one, student P, was not only exposed in the house but roomed, slept and ate in the same room with A from March 8th to March 16th. Another positive reactor had



not only lived in the fraternity house but had studied with one of the patients during the latter's incubation period. The other two positive reactors were exposed only as they lived in the house. Only one positive reactor developed scarlet fever and that one was A, whose attack was not characterized by a visible rash and occurred three weeks before the skin tests was done. Two other positive reactors developed a mild tonsillitis while the other two remained entirely well. Of the 11 negative reactors, presumably immune, two who had apparently a first degree exposure developed scarlet fever while the rest remained well.

A third observation is that of the 11 individuals whose immunity was studied by comparing their skin tests with the ability of .5 cc. of their serum to blanch a scarlet fever rash, there was complete agreement in 8 and disagreement in 3. Zinsser's (1925) work has suggested that part, at least, of the positive reactions to scarlet fever toxin may be evidence of hypersensitiveness. Our findings might be partly explained on this basis especially in students P and Y whose serum blanched a scarlet fever rash. This, of course, assumes that blanching indicates sufficient antitoxic immunity to protect. Schultz and Charlton originally employed 1 cc. of serum in their work. Many have employed 0.5 cc. of serum and have reported blanching power for the serum from a fairly large percentage of apparently immune individuals. Toomey and Nourse (1924) favor the use of 1.0 cc. of serum in the test. We had hoped to retest with larger amounts but this was not accomplished. We did determine that of those serums that did blanch when 0.5 cc. was used, all would produce some blanching when as small amounts as 0.2 cc. were used. Toomey and Nourse obtained a higher percentage of blanching with 1.0 cc. amounts than with 0.5 cc. amounts. They point out that if the serum is used and produces a definite reaction in one case, it will produce the same reaction in nearly 70 per cent of other cases. They also report that 100 per cent reactions in other cases can be obtained if two serums are used which produce blanching in a given case. More quantitative work would seem necessary on the blanching test. An extreme dosage of the etiologic factor that is out of harmony with the degree of ascertainable exposure might explain why the two negative reactors developed scarlet fever. At any rate there was not a reasonably complete correlation of the Dick test results with immunity as evidenced by blanching tests with .5 cc. of serum or lack of immunity as evidenced by

actual attacks of scarlet fever. In other communications Sherwood, Nigg and Baumgartner (1926) have called attention to the apparent lack of correlation between positive reactions and susceptibility to scarlet fever. They have also suggested that some local mechanism in the nose and throat might be a factor in immunity.

The cultural data is interesting since throats negative by inspection commonly harbored methemoglobin producing and hemolytic organisms. Many were staphylococci, some were streptococci. We think that most of them were not scarlet fever streptococci such as we obtained in almost pure culture from the patients during and after their attack and from two contacts before any symptoms developed. Negative cultural findings may not be significant on account of possible treatment as we found was true in some cases. These results are in accord with the streptococcus theory of etiology since they showed that the flora of scarlet fever patients nasopharynx and throat certainly show hemolytic streptococci in great abundance and that contacts coming down with scarlet fever cultured 24 hours before symptoms developed showed almost pure cultures of these organisms. Apparently one carrier was observed. Whether he will be a persistent carrier or a transient carrier of hemolytic streptococci remains to be determined as does also the serologic type or types of the organisms. It is hoped to report more extensively on the bacterial flora of the contacts and also upon laboratory methods seemingly helpful in this work.

The question might be raised that we were not dealing with true scarlet fever. The only thing which we can say is that it was scarlet fever clinically, epidemiologically and by various tests of apparent value in diagnosis. The patients all showed desquamation.

The possibility of a bacteriophage for hemolytic streptococci being present in the nasopharynx of any of these students was considered. No evidence of such was obtained although the plates were carefully inspected and studied with this in mind.

## CONCLUSIONS

The results of this work may be partly summarized as follows:

1. An epidemic of scarlet fever occurred in a fraternity at Lawrence, Kansas. Apparently it was introduced by a case of tonsillitis contracted at Kansas City, Missouri.
2. Five of the twenty members of the fraternity developed scarlet fever and in

addition six others mild tonsillitis or pharyngitis.

3. The bacteriological findings show definite correlation between the presence of certain hemolytic streptococci and scarlet fever.

4. *Streptococcus hemolyticus* in very large numbers were present in the throat and nasopharynx of one individual during the fifth week from onset.

5. The scarlet fever rashes were definitely blanched by the commercial antitoxin used. It would seemingly be of value in diagnosis as Blake and Trask have suggested.

6. The Dick test was done on 15 contacts and one who had apparently had the first case of scarlet fever in this epidemic and was apparently a carrier at the time of the test as well as afterward. The latter and four of the contacts were positive by the Dick test and eleven gave negative reactions. None of the four contacts showing susceptibility by the skin test developed scarlet fever although all of them were apparently exposed since all lived in the same house, ate together and in addition one studied with a student during the latter's incubation period and also, with another of the four, ate and slept in the same room with an apparent carrier for one week. Two of them did develop mild tonsillitis, the other two remained well.

Of the eleven negative reactors, presumably immune, two developed scarlet fever.

7. The skin reactions and blanching power of their serum was studied in a series of eleven individuals. There was complete agreement in eight and disagreement in three under the conditions of the test. More work is necessary before definite conclusions can be drawn from this.

8. The data suggests that the occurrence of positive skin reactions (Dick tests) in some of the individuals might be a phenomenon of hypersensitiveness.

9. These results also suggest that if *Streptococcus scarlatinae* is the etiological factor a local mechanism in the throat and nasopharynx may be a factor in protecting some individuals.

10. There was no evidence that a bacteriophage was a factor in the defensive mechanism.

11. Epidemiological data indicates that the epidemic was essentially one of contact infection.

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### Foreign Bodies in the Air and Food Passages With Case Reports of Unsuspected Foreign Bodies

E. M. SEYDELL, M.D., Wichita

Nearly all patients who have aspirated or swallowed foreign bodies are first seen by the clinician and on him falls the duty of recognizing their presence; therefore, a paper dealing mainly with this phase of the subject, may not be considered amiss.

In this paper I wish to lay special stress on the unsuspected foreign body. Too much has been written about the symptoms which follow the aspiration of a foreign body and too little has been said relative to the fact, that a foreign body may enter either the air or food passages and remain impacted there, without causing any, or very little, discomfort at the time of the accident. That a large percentage of these cases is not diagnosed is proven by the fact that ten years ago foreign body cases were indeed rare occurrences. Now they are quite common and each year bronchoscopists are seeing more of them. This, I believe, is due to the following factors:

1. The clinician has made a study of the signs and symptoms produced by foreign bodies.

2. Which is just as important — He keeps in mind that every case presenting hoarseness, cough or dyspnea, difficulty in swallowing, or any unaccountable loss of weight in an infant, may mean that he is dealing with a foreign body in the air or food passages.

3. Better facilities for diagnosis, Roentgen rays, etc.

In reviewing the histories of foreign body cases we find a great variation in the initial symptoms produced by the entrance of the foreign body, ranging from no reaction, to immediate death from asphyxiation. In the respiratory passages, the majority do give a history of varying degrees of irritation, spasm, or obstruction but, since the object may have been inhaled during infancy, the accident overlooked under the stress of excitement, or, since the aspiration may have occurred while the patient was unconscious, or under narcosis, a negative history is not sufficient to rule out a foreign body.

#### LARYNGEAL FOREIGN BODIES

When a foreign body lodges in the larynx, the patient is usually conscious of its presence. However, numerous cases have been reported in the literature where the victim was not aware of the fact that a foreign body was the cause of his laryngeal diffi-



culty, which indeed might be very slight. There may be pain which is frequently referred to the ears. Phonation is impaired. Dyspnea will vary with the size of the intruder. A laryngeal stridor is usually present and suggests diphtheria. In an infant, who, having had a foreign body in his mouth, and who suddenly develops a violent paroxysm of coughing, with dyspnea, cyanosis, etc., there can be but little doubt regarding the cause of these symptoms. However, diphtheria, angioneurotic edema and edema of the larynx from other causes must be excluded. In adults a laryngeal mirror clinches the diagnosis, but in children a direct laryngoscopy is frequently necessary.

#### TRACHEAL FOREIGN BODIES

The glottic chink is much smaller than the tracheal lumen and therefore objects that pass through the larynx rarely become impacted in the trachea. If the intruder does not enter a bronchus, it is coughed up against the larynx and the flapping impact can be distinctly heard. A wheezing respiration louder than in bronchial foreign bodies is usually present. Cough, dyspnea and cyanosis are very frequently found. There is always danger of asphyxia either due to impacting the foreign body in the glottic chink by a powerful cough, or to an edema of the subglottic area caused by traumatism of the foreign body in its passage up and down in the trachea.

#### BRONCHIAL FOREIGN BODIES

Before discussing the symptoms of bronchial foreign bodies, I wish to stress a very important point. In any patient presenting a persistent cough one should immediately suspect a foreign body and its presence must be ruled out before prescribing cough remedies, or any other form of treatment.

An examination of the case histories of any bronchoscopic clinic will show that many foreign bodies in the lung have been unsuspected foreign bodies, and have only been diagnosed after an x-ray picture of the chest has been made. In numerous cases suspected of having tuberculosis of the lungs it has been discovered by routine Roentgen ray examination that the patient's symptoms were due to a foreign body. After entering a bronchus a metallic foreign body or one of non-irritating character may cause no symptoms for weeks or months, thus causing the clinician to doubt its presence. Sooner or later, however, pathological changes develop which result disastrously for the patient. Where a bronchus is completely blocked the onset of symptoms is

rapid and severe, especially if the foreign body is of organic nature. The most violent reaction follows the aspiration of a peanut, particularly in children under two years of age. In these cases the child frequently develops a marked toxemia. Cases have frequently been reported in which death has resulted within twenty-four hours.

It is not possible for a patient to assist in localizing a foreign body, as tactile sense is lost after the foreign body passes the larynx. Pain is not frequently complained of and when present is seldom severe. Dyspnea and cyanosis are rarely found in recently aspirated foreign bodies, unless there is a concomitant tracheal or laryngeal involvement, but later, when extensive inflammatory changes have taken place, especially in children who have aspirated peanuts, these symptoms may occur. When dyspnea is present the case must be very carefully observed. Prolonged dyspnea results in death from exhaustion. Gradually increasing pallor, anxious expression with sweating and restlessness, should cause the attending physician to seriously consider the opening of the trachea to relieve the patient before it becomes necessary to do an emergency tracheotomy. Cough is nearly always present during the late stages of the condition but may not appear for a number of weeks. At first it is non-productive, irritating, and hacking in character, growing worse when the patient is in a reclining position, often making sleep impossible.

Soon the cough becomes more and more productive, first mucoid then purulent and as retention or an abscess cavity develops, a foul odor becomes noticeable, which is very distressing to the patient and to those in contact with him. In organic foreign bodies the reaction is much more severe, and the course of the condition correspondingly more rapid. The sputum may be blood tinged early in the disease. Later copious hemorrhages may occur. Fever, usually irregular in character, is a variable symptom, more marked in children with organic foreign bodies. In metallic foreign bodies in adults there is rarely any fever until infection of the lung develops. After this the temperature curve would resemble that of a lung abscess. Night sweats are common in the chronic forms of the disease and in this stage the patient usually becomes emaciated. Club fingers are frequently seen in the late stages of lung infection. There is usually an increased leucocyte count which is of value in differentiating a chronic foreign body case from tuberculosis of the lung.

### ESOPHAGEAL FOREIGN BODIES

Dysphagia is the most important symptom of esophageal foreign bodies. It varies in degree up to complete obstruction and is then accompanied by regurgitation. Pain may not always be observed at first, but later when cervical peri-esophageal inflammation exists, marked tenderness and pain on swallowing are usually present. Excessive salivation is frequent. Dyspnea may be found either due to compression of the trachea or caused by edema of the larynx. The same condition would also produce hoarseness. Cough is very frequently a troublesome symptom. Fever is usually present in children and also in adults where the foreign body has been in the esophagus for some time. In young children, where the foreign body has been swallowed without the knowledge of the parent, the only symptoms that may be noticed are difficulty in nursing and loss of weight. The child may either refuse to nurse or may regurgitate its food. Here again a foreign body must be suspected and excluded by roentgenologic studies.

### DIAGNOSIS OF FOREIGN BODIES IN THE BRONCHI

The history and symptoms of foreign bodies in the bronchi are usually sufficient to establish a diagnosis, but in the absence of the former and in those cases where few or no symptoms are present, physical and roentgenologic examinations are imperative. In the localization of foreign bodies, which is essential before removal is attempted, we are nearly always able to determine the location of an intruder, even when the foreign body is not opaque to the Roentgen rays. The medical profession is greatly indebted to the Jackson Clinic for its systematic study of physical and Roentgen ray findings in foreign bodies in the lung. Much of the following comes from this source.

#### INSPECTION

Where there is complete obstruction of the bronchus or where the foreign body has been present in the lung for some time, a contraction of the chest on the affected side is usually noted. In recent peanut cases, as has been pointed out by Iglauer, the obstructed side contains more air due to the valve action of the peanut which traps the inspired air. Expansion is more or less limited on the side involved.

#### AUSCULTATION

By placing the ear at the open mouth of the patient and requesting a forced respiration one may in a majority of these cases

elicit a so-called asthmatoïd wheeze. It is drier than in true asthma and is best heard after the bronchi are coughed free of secretion. The most constant auscultatory finding is diminished intensity of the respiratory murmur distal to the foreign body. If there is complete occlusion of the bronchus, breath sounds are absent below the obstruction. Later when drowned lung or pulmonary abscess is present, the vocal resonance is diminished on the affected side. The physical findings of a drowned lung frequently cause the clinician to suspect the presence of pus in the pleural cavity and a number of these cases have had a rib resected by their physician who was then mystified by the absence of any exudate. Just recently a case of this kind came under my observation.

The presence and location of rales are of great diagnostic significance. A diffuse tracheobronchitis as seen with organic foreign bodies will be denoted by scattered, loud, snoring, snapping and crackling sounds. These sounds will be most intense on the free side because of the presence of the foreign body. The swelling prevents the to-and-fro passage of air on the obstructed side which is necessary to their production. When air can pass an obstruction in the bronchus, rales are formed at this site and can be heard most distinctly posteriorly at the corresponding location on the chest wall. Their greatest intensity is at the point of obstruction.

#### ROENTGEN RAY EXAMINATION

It is important that both anteroposterior and lateral roentgenograms be made. A good picture will ordinarily show a metallic foreign body. Bones and similar foreign bodies are not easily shown. In non-opaque bodies in the lung especially the nut group the x-ray pictures fit in with the physical signs as follows:

1. Increased transparency on the obstructed side.
2. Displacement of the heart towards the uninvaded side.
3. Downward displacement of the diaphragm and limitation of motion on the obstructed side.

#### DIFFERENTIAL DIAGNOSIS BETWEEN TRACHEAL AND ESOPHAGEAL FOREIGN BODIES

A disk shaped foreign body in the sagittal plane must be in the trachea. In the esophagus it would lie in the lateral plane. With the fluoroscope an opaque mixture swallowed by the patient can be seen to pass posteriorly to a foreign body in the



trachea. In non-opaque foreign bodies in the esophagus we allow the patient to swallow a large capsule containing barium while observing the act with a fluoroscope. If the capsule is held up during its passage through the esophagus a foreign body should be looked for at this point. A negative radiographic report does not exclude a foreign body.

#### CASE REPORTS ILLUSTRATING SOME OF THE POINTS REFERRED TO IN THIS PAPER

Case No. 1, M. L. Age 2. On November 9 the child had a crying spell, which soon subsided, following which the mother noticed that the child could not swallow solids. The inability to swallow solids continued until November 12, when the child began to vomit and even refused liquids. This alarmed the parents who took the child to their physician. A Roentgen ray picture was taken which revealed the presence of a small rosary, the crucifix being lodged in the upper esophagus, the chain extended into the stomach. The crucifix was grasped through the esophagoscope but it was impossible to extract the chain. After deep insertion of the esophagoscope a large piece of meat was found impacted above the cardiac end of the stomach preventing the extraction of the chain. After the removal of the meat it was rather a simple task to extract the rosary.

Case No. 2. T. D. K. Age 19. The patient presented himself to an internist complaining of constant cough with expectoration of a large quantity of foul sputum. The cough had become noticeable about nine months previous. Since that time a number of physicians had treated him without giving him relief. After considerable interrogation the internist obtained the following facts, which the patient had forgotten until they were recalled to his mind by direct inquiry. Three years previous the patient was participating in a class fight and in the scuffle aspirated into his lung a small open safety pin, which he was holding in his mouth. Following the initial paroxysm of coughing there was no noticeable trouble until nine months ago. In a Roentgen ray picture the pin was discovered in the lower portion of the right lung with the point upward. Under local anesthesia an attempt was made to rotate the pin so that it could be safely extracted but this could not be carried out. It therefore became necessary to cut off the pin near the spring, following which the removal was easily effected.

The recovery from the operation was un-

eventful; however, the abscess which had formed in the lower lobe still continued to drain at the time the patient passed from my observation.

Case No. 3, Max M. B. Age 3½. A pediatrician was consulted in reference to the child who had difficulty in breathing and a severe cough. After considerable inquiry he was able to obtain the following information: The child had been playing with some navy beans three days previous and suddenly had a violent attack of coughing. She told her mother that she had swallowed a bean. The mother paid no attention to this and thought that the child's condition was due to a severe cold. Examination however, showed the child was breathing with difficulty and was somewhat cyanotic. The left half of the chest was immobile and vocal fremitus was absent over this area. The entire left chest was flat to percussion. No breath sounds or rales could be heard. This history accompanied with the physical findings was sufficient to make a diagnosis of a foreign body in the left lung.

A 5 m.m. bronchoscope was inserted and the bean found occluding the left main stem bronchus. A tracheotomy was performed with the bronchoscope in the trachea, on account of the cyanosis and the severe reaction in the larynx and trachea. The bean was very much swollen and very tightly impacted, causing considerable difficulty in its removal.

Case No. 4, Jas. W., age 9 months. The child had been seen three months previous by the author on account of difficulty in breathing and cyanosis. A direct laryngoscopy revealed a congenital deformity of the larynx. The increase in the difficulty in breathing caused the parents to take the child to their family physician. After observing the child for a period of three weeks, during which time the symptoms became continually worse, a Roentgen ray picture was taken which disclosed a penny in the esophagus. At the time of the author's examination the baby was moribund. The penny was rapidly removed through an esophageal speculum. The child stopped breathing but was resuscitated with oxygen. After a stormy convalescence, recovery ensued.

Numerous other cases could be cited but would really only be a repetition of the foregoing examples, which clearly illustrates the necessity of every physician bearing in mind the possibility of a foreign body in the air and food passages, even when there is no direct history leading one to this conclusion.

## "The Gold Digger"

By RENIG ADE

(J. A. Dillon, M.D., Larned)

The Doctor's phone rang discordantly.

"Doctor, come right down to Jim Black's house, he's fell and they think he's broke his arm. You know where he lives, don't you?"

"Yes, I know where he lives." To himself, "I ought to know, I've gone to Jim's house at least fifty times in the past five years, and he never has crossed my palm with a ten cent piece." "I very sorry but it will be impossible for me to come, you had better phone Doctor Skinner, the county doctor."

It was soon noised about the little town that Doctor W. had refused to go and look after Jim Black who had broken his arm, simply because poor Jim had no money. At the corner drug store a group of the business men were discussing the situation very frankly when the Doctor happened to drop in.

"Is it true, Doc, that you wouldn't go take care of a poor broken armed fellow simply because he couldn't pay you?"

The Doctor admitted the corn. A few contemptuous smiles were in evidence but nothing was said.

"Yes, it's true, fellows, but I happened to know that Dr. Skinner, a competent man and county physician, was in his office at the time. He is paid for looking after our indigent sick. However, since my refusal to go on this case I have recanted and like yourselves I am rather indignant and shamed to think this town contains a man so low he would not go to a fellow citizen's aid in distress. So I am going to propose a plan by way of amends that I know will meet with your hearty approval.

Jim owes me \$125.00 which I am going to strike off my books to start with. Then I am going to donate fifty dollars professional services to him. You, Simpson, the grocery man, I know will give fifty dollars worth of groceries; you, Harper, the coal dealer, will be glad to send down five tons of coal; and you, Everett, the banker, your feelings were the most lacerated at my cold blooded attitude, you will no doubt give a hundred dollars in cash. Then we will expect Hibbard here to install a new refrigerator free. How does it strike you, fellows? Then I have the names of thirty-five more for whom we can do worthy charity."

The Doctor paused, took out his note book to put down the name of the beneficent group as fast as they stepped forward. He

was suddenly seized with a spell of sneezing, being a victim of hay fever and never having had his affinity determined. When he looked around after having politely turned his head, the only person in sight was Grandpa Sanders who was palsily extending a quarter for some Doan's Kidney Pills.

The Doctor smiled sorrowfully as he noted "man's inhumanity to man," slowly climbed the stairs to his office, opened his mail and painstakingly attended to his correspondence; pecking the following letters on the old Remington—vintage of '95: Hermocrime Co.

Gentlemen: I wrote you about a month ago concerning the case of Ezra Hicks, 97 years old, asking suggestions in regard to the use of your product in his case. He had been unable to get out of the house for two years, and, being of a literary turn, put in most of his time looking at pictures of movie stars and reading the Police Gazette.

Either by mistake or through premeditation he took double doses of your medicine. Since then he has been entirely out of control of friends and relatives. He is quarrelsome and has engaged in a number of brawls with officers of the law. He is utterly immoral and has broken up a number of homes.

Do you manufacture any anti-bodies that might counteract the terrible invigorating effect of the original product? Wire me.

Yours truly,

P. S. He is now in bed with a broken leg having, been thrown from his polo pony yesterday.

The Juneau Alaska Gold Bonanza Co.

Gentlemen: Enclosed find proxy you request. I am not in position to take any more of the stock. In fact will be glad to sell mine for one-fourth of what you are asking for your new issue.

Sorry to hear of the manager's ill health, for naturally this delays development work. I thought he was looking badly the time he sold me the stock in Kansas City. In fact he had to lean against the bar for support and the ladies went home without him. I suppose he is exposed to great hardships up there—mushing back and forth from Seattle to Portland. Still I would call him a fairly good musher.

Yours truly,

Mr. Knud Knudson,  
Happy Hollow.

Dear Knud: Your letter received and very sorry to hear your wife's hair has all fallen out. I can't see just how it was my fault as I was called to the country on a call while she was taking her treatment. I in-



structed the office girl to shut off the current after five minutes but it seems her watch had stopped and she did not discover it for an hour. I have had considerable fun joking her about it. I did not see anything in the circulars the manufacturers sent out about it taking the hair out. It did say however it would restore hair. The chances are the fellow who set up the machine got the wiring reversed. Tell her to go ahead with the medicine and not worry about the hair. Certainly she should wean the baby if he is three years old.

The pills in the blue envelope were for the hired man. He has what we doctors call scabies and should sleep alone as long as possible.

If I can get some live minnows will run out Sunday afternoon.

Yours truly,

P. S. Radiator alcohol is positively dangerous.

—R—

The Supreme Court of Missouri has ordered the forfeiture of the charter of the Kansas City College of Medicine and Surgery and the ouster of the school from Missouri. The court held that it was a medical "diploma mill" and misused its charter powers, franchises, and privileges.

It is the ozone in the air instead of Cupid that generates love. Thus concludes the British scientists in their report to the Royal Society.

—R—

## UNIVERSITY OF KANSAS CLINICS

Clinics of J. Milton Singleton, M. D.

Asst. Prof. of Obstetrics and Gynecology.

### INDUCTION OF LABOR BY THE USE OF THE ABDOMINAL BINDER REPORT OF A CASE

The routine use of the abdominal binder in the second stage of labor has been advocated by several.\* Their contention is that it hastens the second stage of labor, shortens the time required for rotation in occipito-posterior positions, and lessens the danger of rupture of the uterus. I have frequently used this procedure and have found it entirely satisfactory.

The use of the abdominal binder is not a new method, but until recently has been discarded and other new and supposedly better methods have been used. In the effort to find a substitute for pituitrin, the abdominal binder has again come to play a part in our attempt to shorten labor.

The case which I report is an example of a type which frequently needs help in

labor; the visceroptotic, with lax abdominal wall, flabby musculature, and a freely movable uterus which is not held securely over the pelvic brim. These cases particularly profit by the use, during the last few weeks of pregnancy of an efficient abdominal support. The decision for induction in this case was made on the grounds that she was at term as nearly as we could determine, and that she had had at her previous and first delivery four years ago a one-month post-mature child, delivered by forceps rotation from a persistent occipito-posterior position. Further grounds for our decision was our promise that we would not again allow her to go beyond the expected date.

Case: Mrs. M. O., age 32, para II now at or about full term. Last menstrual period was between the first and the twentieth of October. Does not recall exact date, making the date for delivery between the eighth of July and the 27th of July. She had a short period of nausea. At three and a half months she had a retroverted incarcerated uterus which caused a great deal of discomfort and pain. This was finally replaced by bimanual manipulation. The period of gestation was otherwise uneventful.

July 29, 1925. Examination, full term pregnancy. By third maneuver of palpation head was found floating freely above pelvic brim. Rectal examination found head high, cervix admitted one finger. Quinine and castor oil were administered that evening according to the plan of Watkins. This was not followed by his injection of pituitrin the following morning.

July 30, 1925. Few spasmodic contractions. Rectal examination, head high, no change in cervix.

July 31, 1925. 5:00 p. m. Quinine and castor oil again administered. No results.

August 1, 1925. Took an automobile ride after evening meal, following which she had intermittent and irregular contractions lasting to midnight. Rectal examination, head low.

August 2, 1925. Rectal and abdominal examination, head high and floating.

August 3, 1925. No pains. 4:00 p. m., under nitrous oxide-oxygen anaesthesia, the soft cervix was easily dilated and a tight cervical and vaginal pack was inserted.

August 4, 1925, 10:00 a. m. No pains have resulted. Under gas, the pack was removed and a second pack was inserted, the cervix was found about three fingers dilated but the head still high.

5:00 p. m. No result from pack. A snug abdominal binder was applied.

7:00 p. m. Complaining of pain in back.

\* Beck, A. C. J. A. M. A., 83, 753, 1924.

7:30 p. m. Having pains every seven minutes lasting one to two minutes.

8:30 p. m. Pains more severe, lasting two minutes.

August 5, 1925, 1:24 a. m. Male baby, weight 9 lbs. and 1 oz. delivered spontaneously.

The puerperium was uneventful.

#### CONCLUSION

1. Obviously, in this case the abdominal binder stimulated uterine contraction by forcing the head down against the cervix.

2. Experience with this and with other cases where the binder has been used, lead me to believe that where stimulation of contractions is indicated, the binder may wisely be used instead of yielding to the temptation to stimulate with pituitrin.

3. In cases where the binder is not effective, the expectant plan of treatment with morphine and rest, is indicated, rather than the administration of pituitrin.

#### Clinic of James R. Elliott, M. D.

Instructor in Orthopedic Surgery

#### AN UNUSUAL CASE OF CONGENITAL DISLOCATION OF THE HIP

On February 22, 1924, Rose Mary S., eighteen months old, was brought in by mother because of a limp. The history was a typical one, nothing of particular bearing, except the age at which the patient first walked independently.

#### HISTORY

Youngest of four children, born at full term, instrument delivery, breast fed until eight months, began to crawl at one year, walked at seventeen months, much later than the older children of the family.

#### PHYSICAL EXAMINATION

Stands with increased lumbar lordosis, pelvis tilted down on right, when allowed to stand alone bears most of weight on left leg, tends to bend forward at the hips, right leg is three-fourths inch shorter than left, level of right great trochanter is higher than left. Positive "Trendelenberg Sign" (a very important diagnostic finding in unilateral dislocation of the hip.)

X-ray findings substantiate clinical findings.

On February 25th, under ether anesthesia hip was reduced by Davis method, and plaster of Paris, spica cast was applied. March 20th, cast was changed as it had become softened by excretia. April 15th child again brought in as cast had become softened. Cast was removed but because of

severe coryza, and elevation of temperature, not reapplied because of the anaesthetic risk. Mother was told to again bring child in, after recovery from acute condition, and that we would, in all probability have to start over where we first began.

Patient was not seen again until June 18, 1924. In the interim she had had numerous of the acute infectious diseases of childhood, and had been in bed most of the time. Trendelenbergs Sign was negative, child walked virtually without a limp, and there was little if any shortening in the right leg. June 30th a check up x-ray showed the femoral head to be in acetabulum and none of the clinical signs of dislocation were present. The contrast between the before and after radiographs was less than usual but coupled with the physical findings there was no doubt that a cure had been effected.

Patient has not been seen since June 18, 1925, at which time she was walking without a limp, none of the objective symptoms of dislocation were present. Mother states that she plays normally, that she is very vigorous, but that she seemed to fall more frequently than she should. I attributed this to the fact that her feet were both markedly pronated, and that she had a moderate degree of knock knee, which of course produced faulty weight bearing. Inner wedges of three-sixteenths of an inch were put in her shoe soles, after which she seemed more sure footed.

The unusual thing about this case was that it was cured by considerably less than two months treatment. The fact that the patient remained in bed, because of acute illness, for a considerable period after the removal of the cast is probably an important factor in producing the cure with so short an immobilization after reduction.

The case seemed worth reporting as it may suggest a reduction in the time which we usually keep these cases in plaster.

—R—

Recently there came into our hands a circular letter soliciting members for the "Keep Well Club" with headquarters in Philadelphia. The application blank, however, is to the Life Service Inc., and provides for a chemical and microscopical urinalysis every three months for one year for which the applicant pays \$15.00. A member of the Pennsylvania State Medical Association appears to be the medical director.

There are some who seem to recognize the possibility of commercializing the propaganda for periodic examination of the ap-

parently well.



# THE JOURNAL

*of The*

## Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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### RESTRICTIVE LEGISLATION

Laws which have been passed from time to time during the past half century have made of every practicing physician a potential criminal without regard to the principles that govern his practice, his character as a citizen and a gentleman, or the reputation he has established in his community. The Harrison Narcotic Act with the various regulations adopted for its administration has made of every practicing physician a suspect. There was at one time in this country, a theory that one accused of crime must be regarded as innocent until proven guilty. This theory is apparently no longer tenable. Under the provisions of the Harrison Narcotic Act, the regulations already adopted and the amendments now proposed, it is or will be necessary for every practicing physician to carry with him or keep conveniently on file, documentary evidence of his innocence. Under the provisions of the law and the regulations of those who are empowered to administer it physicians are theoretically not restricted in the administration of narcotics according to their professional judgment. For instance it is stated that "The Bureau of Internal Revenue is not charged

with the duty of laying down any fixed rule as to the furnishing of drugs or the frequency of prescriptions in any particular case. The responsibility rests with the physician in charge of the case." Theoretically it is a straight and easy road to travel, but many danger signals have been posted, so that practically it may be regarded as unsafe for one who does not keep posted up to date on the traffic rules and who fails to keep a careful and systematic record.

According to the law a physician need not keep a record of drugs dispensed to a patient upon whom he is in personal attendance in the course of his professional practice. But the regulations have defined "personal attendance" and state that physician is not considered to be in "personal attendance" upon a patient within the meaning of the law unless he is in personal attendance away from his office. So that if one administers a narcotic to his patient in his office he must make a record giving the name and address of the patient, the amount of the drug, the condition for which the drug was administered, and any other facts that may help to justify his judgment, and the records must be kept for two years. Another danger signal reads: "Physicians will be charged with violation of the law if through carelessness or lack of personal attention the patient secures more narcotic drugs than are necessary for medical treatment and devotes part of his supply to satisfy addiction" and another one is very positive: "Under no condition may a physician prescribe or dispense narcotic drugs for the purpose of satisfying mere addiction." One may according to his best judgment prescribe opiates for conditions which seem to require them, but the Federal Agent may not agree with him as to the amount necessary to be administered or may conclude that the case is one of addiction and it is up to the physician to prove otherwise. When it is necessary to prescribe larger doses of a narcotic, or to continue the administration of a narcotic the physician is advised to state on his pre-

scription that the case is incurable or that it is senile, giving the age.

One is certainly not to be hindered in the treatment of his patients and will be allowed to use his own judgment; provided, his judgment is in harmony with the regulation and in the opinion of the Federal Agent is not at fault. If one wants to be safe he had best refuse to administer or prescribe opiates in his office, or if an emergency arises and an opiate seems required it is quite important to make and keep a complete record.

When the Harrison Narcotic Act was proposed it was the general opinion that physicians would not be restricted in their use of these drugs. Whether those whose duty it was to administer the law found sufficient cupidity and dishonesty in the medical profession to justify the subsequent restrictive regulations; or from their general opinion of the profession believed physicians likely to commercialize the privileges accorded them, no one seems to know. There is no doubt, however, that there is an occasional one in the ranks of the profession who is unable to resist the temptation to make a little extra money, and it is probably on account of these that the remaining large majority are regarded as suspects.

It is not likely that the law will ever be repealed, nor is it likely that the restrictions will be modified. There is more likelihood that duplicate forms for prescriptions will be supplied and that records of all administrations of narcotics will be required. The medical profession is not sufficiently well organized to have much influence in legislative matters.

#### A POSSIBLE REMEDY

Under practically all legislation intended to deprive the citizen of what is frequently designated his "personal liberty" lies the careless misuse of such liberty by a few individuals. Often the majority suffer more from the administration of such laws than do the few whose faults the laws were intended to correct.

The medical profession was given exceptional privileges under the Harrison Narcotic Act, but because a comparatively few members of the profession found a commercial incentive to abuse those privileges the whole profession is placed under suspicion and subjected to annoying restrictions that react upon the sick and suffering.

There has always been a possibility that the medical profession could eliminate the suspicion and avoid the necessity for the regulations. In a recent issue of the Los Angeles Times there appeared a list of seventeen licensed physicians in California who had been summoned to appear before the Board of Examiners and show cause why their licenses should not be revoked. Of these, ten were charged with violations of the narcotic act.

If the medical societies in each state would cooperate with the state board of examiners and with the officers whose duty it is to enforce the narcotic act, and, when the evidence of violations of the act are sufficiently clear, secure the revocation of the license to practice before the violators have been convicted by the courts or even summoned to appear for trial, there will be fewer violations of the law and the necessity for many of the present regulations will no longer exist.

#### FREE CLINICS

In the June number of the Journal, mention was made of a resolution concerning free clinics that was adopted at the annual meeting of the Society.

This resolution reads as follows: "Resolved by the House of Delegates of the Kansas Medical Society, that any member of this society shall be regarded as unethical, who organizes, conducts, or participates in the operation of a free clinic which is not under the continuous approval and supervision of the County Medical Society having jurisdiction where the clinic exists."

Similar action has been taken by other state medical societies. The sentiment of



the members present when this resolution was adopted was very definitely manifested by a unanimous vote. It is now up to the county societies to establish such rules and regulations governing free clinics as may be necessary to insure their proper control.

Complaints have been made that some of the so-called free clinics are conducted solely for the advertisement it gives the man or men connected with them and that sort of thing seems very unfair to ethical men in the profession.

The secretary of each county society should send a copy of the resolution to every member who is connected with any kind of free clinic that has not already been investigated and officially approved by the society. Those who ignore the warning should be suspended until they have complied with the rules.

This requirement will certainly work no hardship upon any free clinic that is organized for charitable purposes, that is conducted along ethical lines. One who fears to submit to an investigation by other members of the county society is already convicted by his own conscience or there are perhaps already some other grounds for suspicion. In any group of men a majority are usually inclined to be even a little more than fair. While the members of the medical profession are possibly a little too slow to forgive and forget outstanding violations of ethical principles, they are equally slow in accepting evidence, against one of their members, of such violations.

—————R—————

#### Medical Society of the Missouri Valley

The 39th annual meeting of the society, to be held jointly in Omaha and Council Bluffs, promises to be one of the most important sessions of this time honored organization. The Missouri Valley Medical Association has been for many years an organization for the dissemination of medical knowledge and exchange of ideas among the profession of the states lying wholly or in part in the great Missouri river basin. Last year a remarkable program was given by this society in St. Joseph, Mo.

The program planned for the Omaha-Council Bluffs meeting will consist of papers and lectures on various scientific and clinical subjects and clinics. Fully half of the time will be devoted to clinics given by men of national reputation. Among those who have already consented to appear on the program and hold clinics are: Dr. Hilding Berglund, Professor of Internal Medicine at the University of Minnesota, Minneapolis; Dr. Elliott C. Cutler, Professor of Surgery of Western Reserve University, Cleveland; Dr. Irving S. Cutter, Dean of Northwestern University College of Medicine, Chicago; Dr. McKim Marriott, Professor of Pediatrics of Washington University, St. Louis; Dr. E. C. Rosenow of the University of Minnesota, Mayo Foundation, Rochester, and Dr. Gabriel Tucker of the Bronchoscopic Clinic of the University Hospital, Philadelphia.

Negotiations are under way with several other men of equal prominence in their respective lines.

#### —————R————— Kansas Medical Society Meeting (Concluded from Last Month.)

We would urge that this Society reaffirm its approval of the policy outlined in the report of this Committee made last year, a copy of which is filed with this report. The past year has tended to emphasize the conclusions of last year, which read as follows:

First, that this Society definitely go on record as opposing any further agitation favoring the removal of the present clinical work of the department at Rosedale to Lawrence, or any other place.

Second, That the entire four years of the medical school be united at the present location at Rosedale so soon as the facilities there will permit.

Third, That we as a profession over the State, get behind the institution and begin the campaign that is to come at which time we hope that we will be able to convince those in authority of the needs of the institution and of the fact that we have a definite program worthy of such a profession as ours.

These conclusions are particularly pertinent at this time because of the approaching primaries at which time will be nominated members of the lower house to whom we must look for financial support.

L. F. Barney, Chairman—C. H. Jameson, Alfred O'Donnell, F. A. Trump, Committee. Report accepted and filed. Motion made and carried that the Chairman of the committee mail a copy of the report to the Governor, the Chairman of the Board of

Regents, The Chancellor and the Dean of the School of Medicine.

Committee on Hospital Survey—Dr. Geo. M. Gray, Chairmaan, made a verbal report, which was accepted.

Committee on Medical History—Dr. W. E. McVey, made the following report: The Committee on History can report that since the last annual meeting Dr. C. C. Green, who was President in 1889-1890, has been located at Des Moines, Iowa, and a sketch of his life and photograph secured. We still lack photographs of John Parson, '68, M. Bailey, '69, H. K. Kennedy, '73, J. H. Stuart, '81, G. W. Haldeman '82 and life sketches of John Parsons and H. K. Kennedy. A resume of the transactions of the Society from 1859 up to and including the annual session of 1900 has been published in The Journal. This resume will be continued later.

W. E. McVey, Chairman—O. D. Walker, W. S. Lindsay, Committee. Report accepted and filed.

Committee on Scientific Work presented the program as evidence of their work.

Committee on Necrology—Dr. E. E. Liggett, Chairman, gave the following report:

Since our last report at the Topeka meeting in 1925, the Committee on Necrology has received information as to the deaths of forty-seven physicians in Kansas, occurring between the dates of April 16, 1925 and April 15, 1926 inclusive. This information was obtained from the Kansas Journal, the A. M. A. Journal, from obituary notices in the daily papers, from correspondence with the Secretaries of the County Societies, from other physicians of the communities in which the deaths occurred, and from the Secretary of the State Board of Health.

We feel that this information is so complete that the rule of adding two per cent to the number of deaths reported, on account of delayed reports and possible omissions, may be omitted in our estimate of the total number of deaths for the past year.

Of the 60 local societies 23 report no deaths, 14 report 23 deaths, 4 unorganized communities report 5 deaths, 17 deaths occurred in the 22 organized societies which did not report. Deaths occurring in all but 7 of the non-reporting societies. One death each occurred in 2 unorganized communities not reporting, making a total of 47 deaths.

According to the last edition of the A. M. A. Directory there are 2364 physicians in the State of Kansas. Thus these 47 deaths are equivalent to 19.88 per thousand. The Kansas Board of Health reports that

the percentage per thousand of deaths among the people throughout the State is 10.3 for the year 1925, a lower rate by 8.58 than among physicians this year. According to the Journal of the A. M. A. the annual death rate of physicians in the United States for 1925 was 17.22 per thousand, and that the average annual death rate for physicians for the last 24 years is 17.08 per thousand. Therefore it will be seen that our death rate among the physicians of the State this year is higher than it was last year, and is higher than the average for the profession thruout the United States by 2.66 per thousand.

For the last five years of which we have careful and fairly complete record the average rate has been 18.98 per thousand making this year a very small increase over the average, less than one per thousand.

Of the 47 reported, 31 were members of the State Society, 15 were not members, and the status of one was not given. Thirty-seven were in active practice. The ages of death of the 46 whose age was stated, varied from 30 to 86. None were under 30, one died at the age of 30, 6 between the ages of 40 and 49, 10 between 50 and 59 years, 12 between 60 and 69 years, 11 between 70 and 79 years and 6 between 80 and 89 years. Of those over 80, one died at 83, one at 84, 2 at 85 and 2 at 86.

The cause of death was not given in 19 instances. Of the 28 in which the cause of death was given, cerebral hemorrhage caused 5, heart disease 5. Senility, chronic nephritis, uremia, pneumonia and appendicitis each caused two deaths. Influenza, lymphatic leukemia, sarcoma, tumor of the thyroid, coronary thrombosis each caused one death. One person died of an embolism following an operation, another died of gunshot wound self-inflicted, and another was killed in an automobile accident.

The shortest length of time from graduation was five years, the longest was fifty-nine years. Forty-five of the decedents were graduates in medicine, one was not a graduate, and the status of one was unknown. All were licensed to practice in Kansas. One had practiced less than 10 years, five had practiced more than 10 and less than 20 years, fourteen had practiced more than 20 and less than 30, eight had practiced more than 30 and less than 40 years, fourteen had practiced more than 40 and less than 50 years. Three had practiced more than 50 years. The length of practice was not known for two.

The dates of death by months were as follows: Two occurred during the last half



of April, 1925. Two occurred in May, two in June, seven in July, two in August, three in September, one in October, six in November, two in December, six in January, 1926, five in February, eight in March. The time of death was not given for one.

It will be seen that the mortality was greatest in March, when eight occurred. Cardio-vascular disease including cerebral hemorrhage caused ten deaths, much exceeding in number any other systemic ailment. Nephritic ailments, including uremia were next in frequency causing four deaths. Two deaths occurred from pneumonia, but none from tuberculosis.

One physician had practiced in Kansas fifty-two years. Four had practiced over forty years in the same community. One was a pioneer physician in Wilson and one in Wichita. The positions of honor and trust held both as citizens and practitioners of medicine were varied. One had been a school teacher. Two had been members of the School Board, one a member of his city Council. Four had been mayors of their cities, one a county treasurer. Two had been city health officers, two coroners, four county health officers, and one a member of the State Board of Health. Three were Civil War veterans, five World War, two serving as Majors, and one as First Lieutenant in the Medical Corps. During the war one had served on the Examining Board of Waco, Texas. One was a member of the United States Board of Examining Surgeons, one a member of the Pension Board. Three were railroad surgeons. One had been a Professor of Clinical Medicine. One was Superintendent of the State Hospital at Larned. Three had been Presidents of their County Societies, one had been President of the Golden Belt Medical Society. One was Councilor for his district in our State Society, and one was a Fellow of the American College of Surgeons.

1 George W. Akers, Stafford, aged 86, died September, 1925. He was graduated from the Indiana Medical College, Indianapolis, 1878, and was not a member of the State Society.

2 E. H. Atkins, Hoisington, died June 29, 1925. He was graduated from the University at Dublin, Ireland, and practiced in Galatia and Olmitz, Kansas, for years. He was a member of the County, State and American Medical Societies.

3 Orrin Wilmar Nash Austin, Basehor, aged 42, died of lymphatic leukemia at St. Joseph, Mo., February 1st, 1926. He was graduated from the Ensworth Medical Col-

lege, St. Joseph, 1908. Was not a member of the State Society.

4 James A. Barkalow, Rose Hill, aged 71, died in Wichita March 7, 1926. He was graduated from the College of Physicians and Surgeons, Keokuk, Iowa, 1881, and had practiced in Rose Hill over 40 years. He was not a member of the State Society.

5 Samuel H. Braden, Elsmore, aged 70, died of chronic nephritis, November 27, 1925. He was graduated from the College of Physicians and Surgeons, Keokuk, 1886. Was not a member of the State Society.

6 Thomas C. Burton, Hoisington, aged 68, died in 1925. He was graduated from the Eclectic Medical College, Cincinnati, 1897. He practiced at Reading and was a member of the County, State and American Medical Societies.

7 Frances A. Cady, Hutchinson, aged 67, died July 9, 1925. She was graduated from the Kansas City Hahnemann Medical College, 1903. Was not a member of the State Society.

8 John H. Cushenberry, Girard, aged 83, died after a long illness, December 19, 1925. He was graduated from a St. Louis Medical College, 1872, and was not a member of the Medical Society.

9 Jennie L. Edington Eddy, Marysville, aged 57, died January 26, 1926. She was graduated from the Kansas Medical College, Topeka, 1898. Had practiced in Marysville many years, and was the only woman physician there. She was a specialist in gynecology and a member of the State and American Medical Societies.

10 John B. Errin, Harper, aged 85, died suddenly July 26, 1925. He was graduated from the Hahnemann Medical College and Hospital, Chicago, 1885.

11 Joseph Davis Hamilton, Douglas, aged 76, died of heart failure January 16, 1925. He graduated from the Bennett Medical College, Chicago, 1874. He had taught school and practiced medicine in Douglas for 42 years. Had been on the school board, City Council. Had served three terms as County Treasurer and been Mayor of Douglass. He was a member of the County and State Societies.

12 Frances Alice Harper, Pittsburg, aged 56, died of cerebral hemorrhage, September 15, 1925. She was a graduate of Kansas Medical College, Topeka, 1904 and a specialist in gynecology. She was a fellow of the American Medical Association.

13 Winfield Scott Harvey, Salina, aged 78, died July 18, 1925 of cerebral hemorrhage following a long illness. He was graduated from the College of Physicians and

Surgeons, Chicago, 1885, and from the Chicago Post-Graduate Medical School 1891. He was a specialist in gynecology. Had been president of the Golden Belt Medical Society and was a member of the County, State and American Medical Societies.

14 Daniel Alcott Holland, Winfield, aged 42, died of influenza March 7, 1926. He was graduated from the University of Louisville School of Medicine 1909. Was a member of the State Society and a Fellow of the American Medical Association.

15 Eli Marion Hoover, Halstead, retired, aged 74, died of acute dilatation of the heart July 10, 1925. He was graduated from the American Medical College, 1885. He had served six terms as Mayor and had been a member of the State Board of Health. He was a member of the Eclectic Medical Societies of Missouri and Kansas and of their National Association.

16 Agnes Hancock Hertzler Huebert, Halstead, aged 30, died November 27, 1925, of embolism following an operation for cholecystitis. She was graduated from the Kansas University School of Medicine, Rosedale, 1920 and was ophthalmologist on the Staff of the Halstead Hospital. She was a member of the County and State Societies and a Fellow of the American Medical Association.

17 James Franklin Hughes, Larned, aged 54, died of sarcoma sub-scapular at the Mayo Clinic, Rochester, Minn., June 15, 1925. He was graduated from the University Medical College, Kansas City, Mo., 1905. During the World War he was a member of the Examining Board at Waco, Texas. He had been an assistant at the State Hospital at Osawatomie and for the last six years was Supt. of the Larned State Hospital. He was a member of the mid-west State Hospital Medical Association, but not of the State Society.

18 Alva Rufus Hull, Longton, aged 54, died from a self-inflicted gun shot wound, March 10, 1926. He was graduated from the Northwestern Medical School, Chicago, 1898. Had been retired from the Army service and private practice since 1918.

19 Harry Humfreville, Waterville, aged 71, died September 9, 1925, following a long illness at the Grandview Hospital, Kansas City. He was graduated from the Kentucky School of Medicine, 1875. He practiced in Waterville forty-five years. Was an eye, ear, nose and throat specialist. Had been county health officer and was a Missouri Pacific surgeon. He took an active part in the County, State and National Societies. Was formerly President of the County So-

ciety, and was a fellow of the American Medical Association.

20 James E. Hyett, St. Marys, aged 55, died at a hospital in Topeka February 25, 1926. He was graduated from the Northwestern Medical School, Chicago, 1904. Had been a member of the School Board and City Health Officer. Was a member of the Golden Belt Medical Society.

21 Franklin T. Johnson, Cottonwood Falls, retired, aged 85, died of senility February 5, 1926. He served as a first lieutenant of cavalry in the Civil War and had practiced medicine in Kansas 52 years, but was not a graduate of a medical school. Was licensed in 1901.

22 George Fear Johnston, Lakin, aged 61, died November 4, 1925. He was graduated from the Jefferson Medical College, Philadelphia, 1887. Was a member of the the State Society and a Fellow of the American Medical Association.

23 Joseph Howard Langworthy, Leavenworth, aged 46, died of heart disease, March 30, 1926. He was graduated from the University of Pennsylvania School of Medicine, Philadelphia, 1907. He served as a Major in the Medical Corps during the World War. Was a member of the County and State Societies, and a Fellow of the American Medical Association.

24 William Francisco Lee, Humboldt, aged 76, died January 11, 1926. He was graduated from the College of Physicians and Surgeons, Keokuk, Ia., 1875. He was not a member of the State Society.

25 Michael H. Levi, Liberal, aged 53, died February 18, 1926. He was graduated from the Atlanta Medical College, 1898, and was an eye, ear, nose and throat specialist. He was a member of the State Society and a Fellow of the American Medical Association.

26 Charles F. Lusk, Lebo, aged 69, died at Emporia August 19, 1925. He was graduated from Rush Medical College, Chicago, 1884 and had practiced in Lebo forty years. He was not a member of the State Society.

27 Floyd B. McBride, Coffeyville, aged 43, died suddenly of heart disease, July 28, 1925. He was graduated from the Medical College of Indiana, Indianapolis, 1906. Had been President of his County Society, and was a Fellow of the American Medical Association.

28 Cyrus Blazer McClurg, Independence, aged 40, died following an operation for appendicitis January 30, 1926. He was graduated from Washington University Medical School, St. Louis, 1912 and was a veteran of the World War. He was a mem-



ber of the State and American Medical Societies.

29 Frank Albert McDonald, Concordia, aged 64, died of Uremia, May 8, 1923. He was graduated from the Bellevue Hospital Medical College, New York, 1887. Had been President of his County Society, and was a member of the State and a Fellow of the American Medical Association.

30 Charles Allen Martin, Manhattan, aged 51, died of broncho-pneumonia March 18, 1926. He was graduated from the Detroit Homeopathic College, 1902. In the World War he served as a first lieutenant in the Medical Corps at Fort Riley, where he made a very fine record during the influenza epidemic. He was discharged from the Army as totally disabled, but did practice and was a member of the State Society.

31 William Kurtz Mathis, Chanute, aged 46, died of nephritis March 9, 1926. He was graduated from the University Medical College, Kansas City, Mo., 1903. He was a specialist in Urology. Was a member of the County and State Societies and a Fellow of the American Medical Association.

32 Joseph H. Middlekauff, Hays, aged 68, died August 29, 1925. He was graduated from the University of Maryland School of Medicine, Baltimore, 1879. He was not a member of the State Society.

33 William Arthur Minnick, Wichita, aged 70, died of cerebral hemorrhage April 30, 1925. He was graduated from the College of Medicine, Louisville, 1881, and the Hahnemann Medical College, 1884. He was a member of the Board of the Wichita and Wesley Hospitals, and was one of the pioneer physicians of Wichita. He was a member of the County, State and American Medical Societies.

34 Charles Melvin Moates, colored, Leavenworth, aged 65, died of pneumonia November 17, 1925. He was graduated from the Meharry Medical College, Nashville, 1888. He was a leader of his race with the respect of the entire community. He had been city physician and was assistant county physician, and a member of the Board of U. S. Examining Surgeons. He was a member of the County, State and American Medical Societies.

35 John J. O'Brien, Chapman, aged 60, died February 12, 1926. He was graduated from the University of Louisville School of Medicine, 1892. Was not a member of the State Society.

36 Herman Phillip, Wichita, aged 63, died of tumor of the thyroid at the Mayo

Clinic, Rochester, Minn., March 23, 1926. He was graduated from the Frederick Wilhelm University, Berlin, Germany, 1887. He had practiced surgery in Wichita sixteen years, and was formerly a member of the County Society.

37 James Anson Pinney, retired, aged 84, died of cerebral hemorrhage November 3, 1925, at the home of his son in Manville, Wyo. He was graduated from the University of Iowa Medical Department, 1885. He was a Civil War veteran and had been Mayo rand a pioneer physician of Wilson, Kansas. He was not a member of the State Society.

38 James Franklin Preston, Effingham, retired, aged 77, died after a long illness, July 15, 1925. He was graduated from St. Joseph Medical College, 1876, and later from a Louisville Medical College. He had been Mayor of Effingham and was formerly a member of county medical society.

39 John Dewitt Riddell, Salina, aged 57, died suddenly of heart disease at a local hospital after finishing an operation, January 4, 1926. He was graduated from the Kansas City Medical College, 1896. He specialized in Surgery and was on the Staff of St. John's Hospital and was a surgeon for the Rock Island. He served as a Major in the Medical Corps during the World War. Was Councilor for his district in the State Society, was a member of the County, State, Golden Belt Societies, a Fellow of the American Medical Association and a Fellow of the American College of Surgeons.

40 James E. Seright, Kansas City, Kansas, aged 60, died of cirrhosis of the liver and myocarditis, July 19, 1925. He was graduated from the University Medical College, Kansas City, Mo., 1897, and practiced in both Kansas Cities. He was not a member of the State Society.

41 Robert S. Simpson, McPherson, aged 86, died at Wichita of senility, January 2, 1926. He was graduated from the University of Michigan School of Medicine, Ann Arbor, 1867. He was a Civil War veteran, a Rock Island surgeon and had served on the Pension Board. He was not a member of the County Society.

42 William Edward Staggs, Merriam, aged 51, died suddenly December 9, 1925. He was graduated from the College of Physicians and Surgeons, Kansas City, Mo., 1902. He was not a member of the State Society.

43 William Dana Storrs, Topeka, aged 56, died of coronary thrombosis at Rochester, Minnesota, October 5, 1925. He was graduated from the Kansas Medical College

1895 and was formerly Professor of Clinical Medicine in his alma mater. He had practiced in Topeka thirty years and was a specialist in Surgery. Was a member of the County, State, Golden Belt and Northeast Kansas Medical Societies, and a Fellow of the American Medical Association.

44 John Daniel Walthall, Paola, retired, aged 66, was killed in an automobile, accident March 22, 1926. He was graduated from the Ann Arbor University, 1883. Was not a member of the State Society.

45 John W. Wilhoit, St. George, aged 72, died of uremic poison, November 28, 1925. He was graduated from Northwest Medical College, St. Joseph, Mo., 1883. He had been Coroner many of the 40 years he practiced in St. George. Was a member of the Golden Belt, Southwest and State Societies.

46 Henry Wilmer, Atwood, aged 61, died May 5, 1925, of cerebral apoplexy following a tonsilectomy at Hastings, Nebraska. He was graduated from the Eclectic Medical Institute, Cincinnati, 1894. Had been coroner and county health officer.

47 Jacob G. Wortman, Mound City, age 71, died April 26, 1925, at Fort Scott from gangrenous appendicitis. He was graduated from the Kansas City Medical College, 1900. Had been county health officer, and President of the U. S. Pension Examining Board. Was a member of the County and State Societies and a Fellow of the American Medical Association.

Report accepted and placed on file.

Under the head of New Business, the following resolution concerning lye and other caustic alkalis was introduced by Dr. W. F. Bernstorf of Pratt, Kansas:

Whereas, on the 26th day of June, 1925, the House of Delegates of the American Medical Association adopted a resolution which is in words and figures as follows:

"Whereas, the domestic use of concentrated lye and other caustic alkalis and of corrosive acids, in ignorance of their dangerous properties and of treatment in case of accident, is a not infrequent cause of death and of prolonged, distressing and incurable disability, particularly among children; and

Whereas, in the judgment of this house, the adoption of suitable methods of packing, labeling, and distributing such substance would materially diminish the danger; and

Whereas, efforts to bring about the adoption of such methods by the voluntary action of manufacturers and distributors have given no prospect of success: Be it

Resolved, That it is the sense of the House

of Delegates of the American Medical Association, in convention assembled, that in the interest of public health and safety, the packing, labeling and distribution of concentrated lye and of other caustic alkalis and of corrosive acids should be regulated by law; and be it

Resolved Further, That the board of trustees be instructed to take such action as may be necessary to procure the enactment of such Federal and State laws as may be necessary to effect regulation," and

Whereas, In furtherance of said resolution, bills have been introduced in numerous legislatures of the United States and at this time laws regulating such matters have been passed and are now in effect in the states of Colorado, Florida, Louisiana, Minnesota, Nevada, New Hampshire, New Jersey, Oregon, Pennsylvania, South Carolina, Vermont and West Virginia; and

Whereas, The Kansas Medical Society recognizes the need of passage of similar laws in the State of Kansas to the end that untold suffering and frequent deaths may be avoided;

Therefore, Be It Resolved, by the members of the Kansas Medical Society, in convention assembled, that this Society approves the resolution of the American Medical Association above recited, and that said Kansas Medical Society approves the effort that has been exerted in the passage and introduction of bills for the regulation of the sales and distribution of said concentrated lye, and other caustic alkalis and corrosive acids.

Be It Further Resolved, That the Kansas Medical Society approves the bill now pending before the Congress of the United States commonly known as the Federal caustic, alkali and acid act, and urge its adoption.

Be It Further Resolved, That the Kansas Medical Society thru its members give such aid as may be possible to assist in the introduction and passage of a similar law by the legislature of the State of Kansas in the coming session of said legislature.

Be It Further Resolved, That Councilors of the several districts in the State of Kansas be requested to communicate with their respective representatives and senators, urging the passage and adoption of the Federal bill above described.

Be It Further Resolved, That the several members of the Kansas Medical Society urge upon their respective representatives and senators the need of such legislation and to give such assistance as may be within



their power to secure a speedy enactment of the same.

Be It Further Resolved, That the Kansas State Board of Health requested to exert its best efforts and influence to bring to the attention of the legislature and the public generally, the need of such legislation and to aid when possible in the adoption of same.

Be It Further Resolved, That a copy of this resolution be mailed to each of the senators and representatives of the State of Kansas within a reasonable time prior to the convening of the session of the legislature.

Resolutions adopted.

Dr. McVey offered the following resolution to amend the By-laws which was referred to the next meeting of the House of Delegates for its consideration:

Resolved, That Section I of Chapter VI of the By-laws be amended by inserting after the word President in the first line of said section the following:

"Shall begin his term of office on the first day of January following his election and shall serve for one year. He"

Resolved, That Section 2 of Chapter VI of the By-laws be amended to read as follows:

Section 2. The President-elect shall serve as such from the date of his election until the first day of January immediately following. He shall assist the President in the discharge of his duties and shall preside, in his absence, at the meetings of the Society, and shall be ex-officio a member of the Council at large. In the event of the death, resignation or removal of the President he shall immediately succeed to that office. In case of a vacancy in the office of President-elect by death, resignation or removal or succession in office, the Council shall elect one of the Vice-Presidents to fill such vacancy.

Dr. McVey also offered the following resolution to amend the Constitution which was referred to the meeting of the House of Delegates in 1927 for its consideration:

Resolved, That section 1, Article IV of the Constitution be amended by inserting after the word "President" in the second line of said section, and in place of the clause which now reads "three Vice-Presidents" the following: "a President-elect and one Vice-President."

Resolved, That Article VI of the Constitution be amended by inserting after the word President in the first line of said article the following: "President-Elect."

Dr. McVey introduced a resolution concerning Free Clinics, as follows:

Resolved, By the House of Delegates of

the Kansas Medical Society, that any member of this Society shall be regarded as unethical, who organizes, conducts, or participates in the operation of a free clinic which is not under the continuous approval and supervision of the County Medical Society having jurisdiction where the clinic exists." Resolution was adopted.

Meeting adjourned.

#### MEETING OF HOUSE OF DELEGATES

May 6th—8:30 A.M.

This meeting was held in the front room, second floor of the Chamber of Commerce. The President being absent, Dr. O. P. Davis was elected as Chairman to act until the President arrived.

Motion made and carried that the regular order of business be changed, and that new and unfinished business be considered first.

Resolution presented at the last meeting of the House of Delegates by Dr. McVey in reference to amending the By-laws for the purpose of creating the office of President-elect was read and adopted.

Secretary read a letter from the American Medical Association relative to periodic health examinations. Motion made and carried that letter be placed on file.

Secretary's expense account from January 23rd to May 1st presented and allowed: items as follows: Salary of stenographer \$300.00; salary of Secretary \$600.00; Stamps \$85.00; miscellaneous, \$5.65. Total expense account \$990.65.

Following officers were elected:

Dr. F. A. Carmichael, Osawatomie, President, term expires December 31, 1926.

Dr. B. F. Morgan, Clay Center, President-elect, term expires December 31, 1927.

Dr. E. G. Brown, Topeka, First Vice-President, term expires May 5, 1927.

Dr. I. B. Parker, Hill City, Second Vice-President, term expires May 5, 1927.

Dr. J. B. Carter, Wilson, Third Vice-President, term expires May 5, 1927.

Dr. J. F. Hassig, Kansas City, Secretary, term expires May, 1929.

Dr. Geo. M. Gray, Kansas City, Treasurer, term expires May 5, 1927.

Councilors were elected for a term of three years—Dr. O. P. Davis, Topeka Fourth District; Dr. J. T. Axtell, Newton, Fifth District and Dr. C. H. Ewing, Larned, 11th District. Dr. Alfred O'Donnell, Ellsworth, Eighth District, unfinished term, 1 year. Dr. C. C. Stillman, Morganville, Seventh District, unfinished term, 1 year. On motion election of Councilor for Ninth District was postponed until next year.

## STANDING OF THE COUNCIL

District	Councilor	Term Expires
1st	Dr. S. Murdock, Sabetha.....	1927
2nd	Dr. L. B. Spake, Kansas City.....	1927
3rd	Dr. P. S. Mitchell, Iola.....	1928
4th	Dr. O. P. Davis, Topeka.....	1929
5th	Dr. J. T. Axtell, Newton.....	1929
6th	Dr. E. S. Edgerton, Wichita.....	1928
7th	Dr. C. C. Stillman, Morganville.....	1927
8th	Dr. Alfred O'Donnell, Ellsworth.....	1927
9th	Dr. C. S. Kinney, Norton.....	1927
10th	Dr. D. R. Stoner, Ellis.....	1928
11th	Dr. C. H. Ewing, Larned.....	1929
12th	Dr. W. F. Fee, Meade.....	1928

Three Delegates to the American Medical Association, were elected: Dr. J. F. Hassig, Kansas City, Kan., 1930; Dr. F. A. Carmichael, Osawatomie, Kan., 1928; Dr. Alfred O'Donnell, Ellsworth, Kans., 1928.

President-elect was escorted to the meeting and introduced. He expressed his appreciation of the honor conferred upon him and pledged himself to work for the best interests of the Society.

Meeting adjourned.

## MEETING OF THE COUNCIL

The Council of the Kansas Medical Society met in the little dining room in the basement of the Chamber of Commerce, Tuesday, May 4, 12:15 P. M. Luncheon was served, Dutch treat. Following members were present—Dr. S. Murdock, Jr., Dr. L. B. Spake, Dr. P. S. Mitchell, Dr. O. P. Davis, Dr. J. T. Axtell, Dr. D. R. Stoner and Dr. W. F. Fee. The President, Dr. F. A. Carmichael, Secretary Dr. J. F. Hassig, and Dr. W. E. McVey, Editor of the Journal. The affairs of the Society were discussed, but no definite action taken. Meeting adjourned at the call of the President.

At the call of the President a meeting of the Council was held in the little dining room in the basement of the Chamber of Commerce, Wednesday, May 5, 10 A. M. to consider the case of Dr. B. H. Rouse of Goodland, Kansas, who appealed from the action of the Decatur-Norton County Medical Society in suspending him from membership. After reviewing the written evidence for and against the action, and Dr. Rouse was interrogated, who admitted his association with different cults, he was then reprimanded. The evidence was carefully weighed and considered and the Council voted unanimously to uphold the action of the Decatur-Norton County Medical Society, and recommended that the following letter signed by the President and Secretary be sent to Dr. R. G. Breuer, Secretary of the Decatur-Norton County Medical Society and a copy mailed to Dr. Rouse:

Dr. R. G. Breuer, Secretary Decatur-Nor-

ton County Medical Society, Norton, Kan.  
Dear Dr. Breuer:

Dr. B. F. Rouse of Goodland, Kansas, appeared before the Council of the Kansas Medical Society in Kansas City, Kansas, May 6th, 1926, at 10 A. M., in an appeal from the action of the Decatur-Norton County Society for violation of ethics and unprofessional conduct.

The written evidence submitted for and against the action was carefully considered and weighed, and Dr. Rouse was interrogated by the Council in session.

The conclusions of the Council are based upon the allegation of violation of the code of medical ethics. These allegations being admitted as true by Dr. Rouse, the Council can neither excuse nor condone such violations as the association or consorting of its members with sectarian cult or irregulars. It stands for a strict and rigid enforcement of the highest code of medical ethics and imposes on the members of the State Society the obligation of holding its high ethical standards inviolable. It further holds that the Decatur-Norton County Society was justified in the action taken in the face of the evidence introduced, and under its Charter and the By-Laws governing County Medical Societies, the Society shall judge of the qualifications of its own members.

It is noted, however, that the offense charged against and admitted by Dr. Rouse concerned acts antedating the establishing of his residence in Goodland, and there is no evidence shown of recent professional misconduct. The Council does not take into consideration the charge of incompetency. The fact that Dr. Rouse is a graduate of a reputable school and licensed to practice in the State are regarded as sufficient evidence of competency.

It was the judgment of the Council that the conduct of Dr. Rouse merited a severe verbal reprimand, which was administered. However, the Council feels that should Dr. Rouse apply for reinstatement in the proper manner and in the proper spirit, and your society is convinced of his sincerity and that no further transgression of the ethical code will occur, a spirit of charity for past delinquencies should be shown and would recommend that he be given the opportunity of demonstrating his sincerity, and that he should not be debarred from fellowship, advice and support of the medical profession because of past indiscretions.

We are also sending a copy of this letter to Dr. Rouse.



The Council of the Kansas Medical Society:

By DR. F. A. CARMICHAEL, Pres.

DR. J. F. HASSIG, Sec'y.

Meeting adjourned.

#### MEETING OF THE COUNCIL—MAY 6

Meeting and organization of the new Council was held in the front room second floor Chamber of Commerce, Thursday, May 6th about 10 A. M. Meeting called to order by the President, Dr. F. A. Carmichael. Others present—Dr. L. B. Spake, Dr. P. S. Mitchell, Dr. O. P. Davis, Dr. J. T. Ax-tell, Dr. Alfred O'Donnell, Dr. D. R. Stoner, Dr. C. H. Ewing, Dr. W. F. Fee, Dr. George M. Gray, Dr. J. F. Hassig, and Dr. W. E. McVey, Editor of the Journal.

It was definitely decided that the next annual meeting would be held in Hutchinson, Tuesday, Wednesday and Thursday May 3, 4 and 5, 1927.

Dr. W. E. McVey, Editor of the Journal, gave the following report which was accepted and filed:

The Editor of the Journal begs leave to submit the following report for the year ending April 30, 1926.

#### Financial Statement of The Journal.

##### Receipts:

Advertising .....	\$3,713.00	
Sub. 1616 memb.....	3,032.00	
Sales and Sub.....	45.73	
Credit and Collec. Bur..	11.32	
Other Sources.....	28.76	
Accts. Due .....	271.50	
In Receivers Hands.....	125.00	\$7,227.31

##### Expense:

Printing Journal .....	\$2,220.00	
Stock and Stationery....	701.35	
Salaries and Wages....	2,444.50	
Postage .....	184.98	
Credit and Collec. Bur..	2.70	
Miscellaneous .....	241.83	5,795.36

Earned ..... 1,431.95

#### Account of Editor with Society.

##### Receipts:

Advertising .....	\$3,713.00	
Kan. Med. Society.....	1,800.00	
Sales and Sub.....	45.73	
Cred. and Collec. Bur....	11.32	
Other Sources .....	28.76	
Accts. Due .....	271.50	
In Receivers Hands.....	125.00	5,995.31

##### Expense:

Printing Journal .....	\$2,220.00	
Stock and Stationery....	701.35	
Salaries and Wages....	2,444.50	
Postage .....	184.98	
Credit and Collec. Bur..	2.70	
Miscellaneous .....	241.83	5,795.36

199.95

Less accts, due & unpaid 396.50

Bal. due Editor..... 196.55

A vote of thanks was extended to Dr. W. E. McVey for the splendid paper which

he read at the Secretaries' conference last fall in Chicago and also for the splendid work he is accomplishing with The Journal.

Dr. Carmichael proposed a Legal Bureau, which was discussed at some length. On motion the following committee was named—Dr. F. A. Carmichael, Dr. W. E. McVey and Dr. O. P. Davis, who are to prepare some definite plan which will be submitted to the Executive Committee for their action, a meeting of which will be held at the call of the President.

Major H. H. Smith, M. C. appeared before the Council and asked that a military Committee be appointed. Since there is already such a Committee existing, motion was made and carried that it be continued in force.

Dr. O. P. Davis was re-elected a member of the Defense Board.

A motion was made and carried that the Kansas City Star, Kansas City Journal Post and Kansas City Kansan be commended for the publicity and fight that they have made against fake medical schools and quacks.

A vote of thanks was extended to Wyandotte County Medical Society for the hospitality shown the members and guests of the Kansas Medical Society Meeting adjourned.

#### SECRETARIES MEETING—MAY 5TH

A meeting of secretaries of county societies was held at the Grund Hotel, Wednesday at 12:15 P. M. Luncheon was served in the Blue Dining room. The following were present: Dr. H. E. Blasdel, Hutchinson, Dr. D. E. Bronson, Olathe, Dr. H. E. Haskins, Kingman, Dr. J. B. Henry, Lawrence, Dr. P. S. Mitchell, Iola, Dr. O. W. Miner, Garden City, Dr. A. B. McConnell, Burlington, Dr. J. T. Naramore, Parsons, Dr. L. S. Nelson, Salina, Dr. Malcolm Newlon, Lincoln, Dr. F. A. Carmichael, President, Dr. W. E. McVey, Editor of The Journal and Dr. J. F. Hassig, Secretary.

Dr. Carmichael spoke on the functions of the Secretaries, urging greater activity in securing applications of all eligible doctors in the county for membership, and having attractive programs and regular meetings.

Everyone present took part in the discussions, telling of his own experiences at home, both good and bad.

Dr. McVey, Editor of The Journal explained that The Journal belonged to us and asked that news items and all papers read before the county societies be mailed in for publication.

The meeting was a success from every standpoint, and adjournment was compelled for the want of more time.

## GENERAL SESSION

The scientific session of the Kansas Medical Society convened on the second floor of the Chamber of Commerce, Kansas City, Kansas to hear the address of the President and various papers by members and guests of the Society.

## THE PROGRAM

Tuesday, May 4th, 1926

- "President's Address", Dr. F. A. Carmichael, Osawatimie.
- "General and Local Rest in the Treatment of Pulmonary Tuberculosis", Dr. H. C. Goodson, Colorado Springs.
- "The Radiographic Evaluation of the Pulmonary Tubercular Lesion", Dr. Lewis G. Allen, Kansas City.
- Discussion opened by Dr. O. R. Brittain, Salina.
- "Encephalitis Lethargica", Dr. M. L. Perry, Topeka.
- Discussion opened by Dr. Karl A. Menninger, Topeka.
- "Trachoma, its Etiology and Treatment", Dr. James W. May, Kansas City.
- Discussion opened by Dr. R. J. Curdy, Kansas City.
- "The Campaign for Better Obstetrics", Dr. George C. Mosher, Kansas City.
- Discussion opened by Dr. J. P. Greenhill, Chicago.
- "Management of the Second Stage of Labor", Dr. J. P. Greenhill, Chicago.
- "Influence of the Kielland Forcep Technic in Instrumental Delivery", Dr. L. S. Nelson, Salina.
- Discussion opened by Dr. L. E. Haughey, Concordia.
- "The Pupils in Coma", Dr. Wm. C. Menninger, Topeka.
- Discussion opened by Dr. Thor Jager, Wichita.

Wednesday, May 5th, 1926

- "Cancer of the Lip—Report of 25 Cases Treated with Radium", Dr. Marion Trueheart, Sterling.
- Discussion opened by Dr. Harry E. Blasdel, Hutchinson.
- "Pre-cancerous Dermatoses", Dr. S. T. Milard, Topeka.
- Discussion opened by Dr. W. B. Goddard, Topeka.
- "Fractures of the Shaft of the Femur", Dr. Richard S. Haury, Newton.
- Discussion opened by Dr. M. L. Bishoff, Topeka.
- "Fractures" (Moving Picture Illustrations), Dr. H. Winnett Orr, Lincoln, Neb.
- "Crippled Children Problem in the State of Kansas", Dr. E. D. Ebright, Wichita.

- Discussion opened by Dr. W. M. Mills, Topeka.
- "Disinfection of Fresh Wounds", Dr. H. L. Chambers, Lawrence.
- Discussion opened by Dr. W. J. Gates, Kansas City.
- "Gallbladder Research Work", Dr. Warren H. Cole, St. Louis, Mo.
- "Nephrosis", Dr. C. A. Lilly, Atchison.
- Discussion opened by Dr. L. W. Shannon, Hiawatha.
- "The Clinical Interpretation of Blood Pressure Values", Dr. P. M. Krall, Kansas City.
- Discussion opened by Dr. C. F. Menninger, Topeka.
- "Incipient Hyperthyroidism", Dr. G. F. Corrigan, Wichita.
- Discussion opened by Dr. C. C. Nesselrode, Kansas City.

Thursday, May 6th, 1926

- "Fake Doctors", Dr. S. M. Chaffee, Talmage.
- Discussion opened by Dr. J. N. Dieter, Abilene.
- "Meckel's Diverticulum", Dr. Marvin Hall, Topeka.
- Discussion opened by Dr. Robert B. Stewart, Topeka.
- "Action of Tobacco and Other Extracts on the Epithelial Cells", Dr. Ferdinand C. Helwig, Kansas City.
- Discussion opened by Dr. J. L. Lattimore, Topeka.
- "Medical and Health Education of the Laity", Dr. Jno. M. Dodson, Chicago.
- "Tularemia", Dr. W. G. Gillett, Wichita.
- Discussion opened by Dr. C. E. Coburn, Kansas City.
- "Prevention and Treatment of Smallpox, Diphtheria and Scarlet Fever", Dr. L. B. Gloyne, Kansas City.
- Discussion opened by Dr. N. P. Sherwood, Lawrence.
- "A Study of One Thousand Stillbirths", Dr. Earle G. Brown, Topeka.
- Discussion opened by Dr. L. Leverich, Kansas City.
- "A Part Time Health Officer", Dr. C. E. Stevenson, Oswego.
- Discussion opened by Dr. J. C. Montgomery, Topeka.
- "Muscular Exercises in the Correction and Development of the Nose and Face", Dr. H. B. Robinson, Great Bend.
- Dr. Charles S. Huffman, secretary of the State Society for fifteen years, at present Chairman of the State Board of Administration, was a welcome member at the meeting and gave an interesting talk on Tuesday's program. J. F. HASSIG, Secretary.



## SOCIETIES

## LABETTE COUNTY SOCIETY

The regular meeting of the Labette County Medical Society was held at the Matthewson Hotel, jointly with the Labette County Dental Society, on May 26th. This being the 20th anniversary (state charter) of the Labette County Medical Society, the following program was presented:

6:30 to 7:30 p. m.—Sumptuous plate supper was served in the banquet room of the Hotel.

7:30 to 7:45 p. m.—A short talk on the progress of medicine in the last forty years, by E. W. Boardman, M. D.

7:45 to 8:00 p. m.—A short talk on the progress of dentistry, by O. M. Davis, D. D. S.

8:00 to 10:00 p. m.—Dr. Russell M. Haden, from the State University of Kansas, gave the Society a lecture on Focal Infection, particularly treating on the dental infection. He also gave an interesting lantern slide demonstration of the work that is being carried out by him along these lines.

O. E. Stevenson, M. D., opened the discussion for the medical profession, and gave a very interesting talk along the lines of dental infection and the necessity of a thorough co-operation between the dental profession and the practicing physician.

J. T. Nelson, D. D. S., opened the discussion for the dental profession, and gave some essential points in treating some forms of dental infection, and particularly brought to the attention of the Societies—the result and the non-result in dealing with the pulpless tooth.

The medical and dental societies of Labette county are unanimously in favor of such meetings with the idea of bringing the medical and dental profession under a better co-operating spirit.

The minutes of the last meeting read and approved. There were forty members of the two societies present. There being no further business before the Society, a motion to adjourn. Motion carried.

J. T. NARAMORE, M.D., Secretary.

## SHAWNEE COUNTY SOCIETY

The June meeting of the Shawnee County Medical Society was held at Hillcrest Sanatorium, June 7, and consisted of a program of clinical cases by the members of the staff.

It was voted by the society that members be requested to close their offices on Thursday afternoon during the summer months.

Meetings will not be held during July and August.

EARLE G. BROWN, Secretary.

## ANESTHETISTS MEET

The annual meeting of the Mid-Western Association of Anesthetists will be held October 11-14, 1926, in Kansas City, Mo., at the same time as the Clinic Week there. Headquarters, Baltimore Hotel.

An interesting and attractive program is in the process of making. Any physician or dentist desiring to read a paper should send the title of his paper to the secretary very soon.

RALPH M. WATERS, M.D., Sec.-Treas.

425 Argyle Bldg., Kansas City, Mo.

## PERSONALS

Dr. F. C. Boggs, Topeka, has gone to Europe for a course of study in diseases of the eye, ear, nose and throat.

Dr. John A. Dillon, Larned, Kansas, who has been writing the Renig Ade stories for the Journal, has compiled these and other stories into a book which is being published.

At the commencement exercises of Washburn College, honorary degrees were conferred upon Dr. Richard L. Sutton of Kansas City, Missouri, and Dr. Frank Smithies of Chicago.

Dr. C. F. Harrar, who went to California some three years ago, has returned to Fort Scott, his former residence.

Dr. Frank Abbey has associated himself with Dr. Paul Carson at Wichita, in the practice of pediatrics.

Dr. Joseph Fowler has moved to Osawatimie. Dr. Fowler was formerly located at Fontana.

Dr. D. W. Manson has moved from Burlington to Kansas City where he has formed a business association with Dr. Grose.

## DEATHS

Dr. Peter J. Morrison, Hillsdale, died at his home May 26, 1926, after a long illness. He graduated from the University of Michigan Medical School, Ann Harbor, in 1869.

Dr. J. M. Parrington, Emporia, aged 57, died in May, 1926. He was graduated from the Medical College of Indiana, Indianapolis.

olis, in 1898. He was a member of the Kansas Medical Society.

Dr. Frank L. McKinney, Galena, aged 47, died May 15, 1926, after a protracted illness. He graduated from the University Medical College, Kansas City, Missouri, in 1908. He was a member of the Kansas Medical Society.

Dr. David Laughlin, Clyde, Kansas, aged 93, died May 17, 1926. He had practiced in Clyde since 1869.

Dr. Harrison D. Cooper of Dexter, Kansas, aged 68, died March 15, 1926, of cerebral hemorrhage.

Dr. Thomas F. Clark, Belpre, Kansas, aged 83, died of paralysis March 4, 1926.

—R—

### Kansas Medical Laboratory Association

#### LICENSING OF TECHNICIANS

There has been up for discussion for the past four years in the Kansas Medical Laboratory Association the question of the licensing of technicians. A committee was appointed and, after careful investigation of the system employed and results obtained in New York and other states, they made recommendations favoring some form of examination and licensing of technicians. It seems to the committee that some method of ascertaining the competence of individuals working in the field of technical laboratory work should be undertaken since their laboratory findings relative to diphtheria, syphilis, suspected appendicitis, infection with animal parasites and many other conditions are depended upon by many physicians along, of course, with other findings, as a guide in medical or surgical treatment.

The President of the Association, Dr. J. L. Lattimore, has just sent out an outline of a proposed law governing the licensing of technicians. He hopes that all interested will feel free to communicate with him relative to this matter. The points which he stresses in this outline, he has summarized as follows:

"Those eligible to take examination shall have a diploma from a recognized high school and shall have had at least two years experience in technical training (a diploma from an institution of higher learning, in this line of work, will be acceptable.) The applicant shall be at least eighteen years of age.

"There shall be an examining board, composed of five men of recognized ability, to be appointed by the Governor for a period of five years. Each year, the Governor shall

appoint one member to this Board so arranged that one member will retire each year.

"The subjects that the applicant shall be examined in will be hematology, bacteriology, serology, parasitology, and chemistry. The examination shall consist of from ten to twenty questions on each subject (written examination) and an oral examination as deemed wise by the examiner. An average grade of 75 shall be required to pass, the applicant shall not make less than 50 in any one subject. If all other subjects shall be above 75 and one below 50, then the applicant shall have the right to request a review of the paper by some other member of the board. Each applicant shall file with the Secretary of the Board, proper credentials and proof of character and a check for \$25. before he shall be permitted to take the examination. The examination shall be held on the second Friday and Saturday in June of each year in Topeka, Kansas.

"An individual may be granted a temporary permit by the Secretary and President until the following examination, upon the filing of proper credentials and the payment of the examination fee, which shall apply for the regular examination.

The Board shall have the power to revoke the license of any technician for misconduct or sufficient evidence of improper practice. Examiners shall be allowed six cents per mile for traveling expenses and \$5.00 for hotel expenses, the expenses to be taken from the fund created by annual fees and examination fees. Each registered technician shall pay an annual fee of \$3.00, payable to the Treasurer of the Board. The Board of Examiners shall have the power of determining reciprocity with technicians licensed in other states. The Board shall have the right to inspect the laboratory of any technician at any time and instruct the technician in certain procedures. For just cause, the Governor shall have the right to remove from office any member of the Board of Examiners."

The question of penalty for violation is still open for suggestion. In order to bring out discussion from those interested in this, Dr. Lattimore offers the following hypothetical provisions:

"The penalty for violating this law or the practice of above described technical work, without license, shall be for the first offense, \$50, and for the second and other violations thereafter, a fine of \$100 to \$500, or an imprisonment of one year in the state penitentiary, or the infliction of any combination of the above penalties."



As I understand the proposed law it would mean, first, that every commercial laboratory would have to have a licensed technician either as owner or connected in a responsible capacity in the laboratory; second, that this would not interfere with licensed physicians having their own work done under their own supervision since they themselves take the responsibility.

If any one is in doubt as to the meaning of the proposed law or its interpretation or has any suggestions for improving it, Dr. Lattimore would appreciate very much having them write him, addressing the communication either in care of the Editor of the State Medical Journal, or to the office of Dr. J. L. Lattimore, in the Mills Building, Topeka, Kansas.

R

### MEDICAL SCHOOL NOTES

Dr. R. L. Sutton received the honorary degree of Doctor of Science from Washburn College, Topeka, Kansas, June 21, 1926. Dr. Sutton attended the meeting of the American Dermatological Association in Philadelphia, May 27-29, and addressed the members on his recent trip for big game in Southern Asia. He was also the guest of honor of the Izaak Walton Club in Topeka, on June 1.

At a recent meeting of the Kansas City Academy of Medicine, Dr. M. J. Owens was elected president, and Dr. L. F. Barney, vice-president.

Dr. W. Y. Jones, of Hutchinson was a recent visitor at the School of Medicine.

Chancellor E. H. Lindley addressed the Nurses graduating class of Bell Memorial Hospital, at their graduation on May 19.

Dr. Sherman Axford visited the Medical School on May 17, 1926.

Dr. Edward Saylor, '25, has recently been added to the staff of Bell Memorial Hospital as Resident Pathologist. His service will begin on July 1.

Dr. C. B. Francisco has just returned from the University of Kansas Clinics for crippled children, held the first Friday of each month at Hutchinson. Dr. Francisco saw forty patients at this clinic.

Senator John Thorn and ex-Governor Hodges were visitors at the Medical School on May 17.

The members of the graduating class who have accepted internships are as follows:

Angle, Fred E., Kansas City, Kans., United States Navy.

Barnes, Harold R., Hiawatha, Kans., Louisville City Hospital, Louisville, Ky.

Becker, L. H., Topeka, Kans.; St. Francis Hospital, Wichita, Kans.

Brady, C. H., Lawrence, Kans., Bell Memorial Hospital, Kansas City, Kans.

Brown, Marshall W., Wichita, Kans., Mo. Methodist Hospital, St. Joseph, Mo.

Buikstra, Cyrus W., Ionia, Kans., Colorado General Hospital, Denver, Colo.

Danglade, James H., Kansas City, Mo., Bell Memorial Hospital, Kansas City, Kans.

Davidson, Oscar W., Solomon, Kans., Methodist-Episcopal Hospital, Indianapolis.

Dellinger, Earl H., Haviand, Kans., Bell Memorial Hospital, Kansas City, Kans.

Dyck, Cora E., Moundridge, Kans., Halstead Hospital, Halstead, Kans.

Engel, W. J., Lawrence, Kans., Cleveland City Hospital, Cleveland, O.

Goldblatt, Samuel, Kansas City, Mo.

Haley, Jesse R., Brookfield, Mo., St. Marys Hospital, Kansas City, Mo.

Hook, W. Graves, Kansas City, Mo., Kansas City General Hospital, Kansas City, Mo.

Horton, Ralph, Kansas City, Mo., United States Public Health Service.

Hunt, Paul F., Kansas City, Mo., Bell Memorial Hospital, Kansas City, Kans.

Jamison, J. H., Idana, Kans., Trinity-Lutheran Hospital, Kansas City, Mo.

Jennett, James H., Kansas City, Mo., Kansas City General Hospital, Kansas City, Mo.

Kosar, Clarence D., Ada, Kans., United States Public Health Service.

Lewis, L. Dean, Chanute, Kans., Wesley Hospital, Wichita, Kans.

McCreight, Eugene J., Lyndon, Kans., Wesley Hospital, Wichita, Kans.

Matthaei, Pearl V., Great Bend, Kans.

O'Donnell, H. F., Ellsworth, Kans., Bell Memorial Hospital, Kansas City, Kans.

Pumphrey, Lloyd, Pittsburg, Kans., Western Pennsylvania Hospital, Pittsburgh, Pa.

Robbins, Harry E., Topeka, Kans., St. Luke's Hospital, Kansas City, Mo.

Rusher, Robert H., Kansas City, Mo., Kansas City General Hospital, Kansas City, Mo.

Schaffer, Clarence K., Kansas City, Mo., Louisville City Hospital, Louisville, Ky.

Schreiber, Fred C., Leavenworth, Kans., Franklin Hospital, San Francisco, Calif.

Sechrist, Charles, Mender, Kans., St. Louis City Hospital, St. Louis, Mo.

Shelley, Dorothy E., Elmdale, Kans., New York Women's and Children's Hospital, New York.

Shofstall, Charles D., Lawrence, Kans., St. Louis City Hospital, St. Louis, Mo.

Smith, Gerald W., Pittsburg, Kans., United States Navy.

Smith, Frederick A., Kansas City, Mo.  
Snyder, Cora, Robinson, Kans., Children's Hospital, Denver, Colo.

Van Winkle, Arthur, Lawrence, Kans., Methodist Episcopal Hospital, Gary, Ind.

Vincent, Cranston G., Topeka, Kans., St. Mary's Hospital, Kansas City, Mo.

Wood, Lawrence, Clay Center, Kans., Montreal General Hospital, Montreal, Canada.

Dr. Russell L. Haden spoke on "Focal Infection" before a recent meeting of the Johnson County Medical Society, at Olathe, Kans.

Dr. W. L. Dwyer read a paper on Recent Advances in Infant Feeding, at a meeting of the Vernon-Cedar County Medical Society at Nevada, Mo.

The will of the late Dr. E. P. Hall, of Kansas City, Mo., left the income of his estate to a cousin of Denver, Colo., to be used during her lifetime. At her death, the entire estate reverts to the University of Kansas Medical School with the understanding that the income thereof be used to assist needy medical students in any way possible.

—————R—————

#### Squibb Branch Office in New Orleans

In the course of a swing through the Southern states, General Sales Manager R. D. Keim of the E. R. Squibb & Sons recently completed arrangements for the opening of a branch office in New Orleans, La. This office, to be located in the Queen Crescent Building at 344 Camp Street, will carry a complete stock of biologicals, arsenamines, insulin and a selected list of other Squibb specialties. The purpose is to provide the medical, dental and pharmaceutical professions of Louisiana, Mississippi and neighboring states with fresh stocks of these products, kept under proper refrigeration at all times and available any hour of any day.

Mr. Keim was accompanied on his southern trip by R. S. Westgate, Assistant General Superintendent of the Brooklyn Laboratories of E. R. Squibb & Sons. They were joined en route by Southern States Sales Manager W. S. Iversen of Atlanta and Office Manager J. J. Toohy of the Kansas City Branch.

—————R—————

#### Mail Directory Information Card Promptly

During the month of June, every physician in the state should have received a Directory information card. Every one is card regardless as to whether he or she

urged to fill out and return the stamped has changed their residence or office address.

This information will be used in compiling the Tenth Edition of the American Medical Directory, now under revision in the Biological Department of the Association. The Directory is one of the altruistic efforts of the Association and is published in the interest of the medical profession which means ultimately in the interest of the public. It is a book of dependable data concerning the physicians and hospitals in the United States and Canada.

AMERICAN MEDICAL ASSOCIATION,  
June 15, 1926.

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#### Kansas City Clinical Society

Dr. F. H. McMechan of Avon Lake, Ohio, will address the Kansas City Clinical Society on "The Evaluation of Surgical and Anesthetic Risks from the Viewpoint of the General Practitioner."

Dr. McMechan is Secretary General of the Associated Anesthetists and Executive Secretary of the International Anesthesia Research Society and Editor of its official organ, *Current Researches in Anesthesia and Analgesia*, the only American publication devoted to this specialty.

During the past twenty years Dr. McMechan, with the cooperation of his fellows in the specialty of anesthesia, has been a leading factor in the nation wide organization of the Associated Anesthetists of the United States and Canada and its regional societies.

The Mid-Western Association of Anesthetists is holding its Sixth Annual meeting in Kansas City during Clinical Society week.

One of the principal activities of the anesthetist's program is the effort of the International Anesthesia Research Society to prevent needless deaths through the mechanism of a safety-first uniform anesthesia chart. The essentials of this chart are: (1) The determination of surgical and anesthetic risk before operation. (2) Five-minute blood pressure guide and protection during the entire operative period. (3) Remedial therapy and after-care based on the degree of circulatory depression.

According to Dr. McMechan, "Even in this, the fourth era of Surgery, the general practitioner is still all too often called upon to answer the challenging jibe—'The operation was a success but the patient died!' Hence, the necessity for some routine way in which the family doctor, for his own guidance and his professional advice to oth-



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# Grandview Sanitarium

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E. F. De VILBISS, M. D.,

Superintendent.

Office 917 Rialto Bldg., Kansas City, Mo.

ers, may determine a given patient's fitness for operation and more accurately forecast the probable result."

In his lecture, Dr. McMechan will illustrate all his points by means of lantern slides showing the latest information on the classification of operative risks and comparative death rates, as well as the scope and utility of such diagnostic and prognostic tests as Moots' index for operability, the degree of circulatory depression, the nerve shock index, the energy index, Grover's blood pressure key, and his interpretations, the breath holding test and vital capacity, Cornell's test for disclosing incipient nephretics, McIntyre's test for vagotonia and sympatheticotonia, and the collected results of these tests put to routine use in good, fair and poor operative risks in a surveyed series of cases.

From the data that has become available as a result of this safety-first movement, Dr. McMechan is convinced that the family doctor can readily evaluate the patient's basic reserve vitality even before referring the case for operation and can use this evaluation to forecast the probable outcome very accurately. Surgeons and anesthetists may also use these routine tests for further protection of operative patients.

—R—

#### **Garvan Leads Fight on Common Cold—Will Finance a Research to Discover Cause and Cure for Root of Many Ills**

A research to discover the cause and a cure for the common cold, which was pronounced one of the greatest scourges of humanity, was undertaken by the American Drug Manufacturers' Association at its convention in New York City recently, when an offer to finance such a research was made by Francis P. Garvan, President of the Chemical Foundation.

Reporting good progress in the fight to establish the chemical industry in this country in competition with Germany in the fields which Germany formerly controlled, Mr. Garvan branched into the subject of the common cold, which he said was one of the greatest causes of mortality and economic loss, in spite of the fact that it is usually regarded as of slight importance. He said:

"Sitting at my desk, it seems to be as if a new industry was born in this country every minute, fathered by chemistry and mothered by research. But recently, in my pride and boasting of our achievements, the curtain lifted over something undone, a problem I have brought to you and which has, I might almost say, overwhelmed me in its importance and in the

little that has been done with it. This is the subject of the common cold.

"When you come to consider that all through our lives we go on suffering from a cold and pneumonia, from mastoiditis and the sinus troubles, and a thousand and one things which develop out of the common cold, to say nothing of the inherent weakening of the physical structure by these repeated assaults upon ourselves, but more particularly upon our children and our women, you realize the gravity of the common cold.

"Do you realize that ten days of every man, woman, and child's activity a year, on the average, are lost throughout this country? It amounts to more than a million years of activity annually. The loss to agriculture, industry and all business activities is some 700,000 years of working time through the incapacitation of 15,000,000 workers in this country."

The American Drug Manufacturers' Association voted to cooperate with The Chemical Foundation in seeking a method to check the ravages of colds.

—R—

Sajous is reported, by the secular press, to have discovered the heat unit, the life principle, governing the human body and thus making the cure of pneumonia imminent. His finding is that the human body contains phosphorus and that this phosphorus is acted upon by oxygen in such a way as to produce the heat which is essential to animal life. The principle is illustrated in striking a sulphur match when the oxygen works on the sulphur and heat is produced. Sajous is reported as saying, "for two centuries we have known that there was an element in the cells of the body known as lecithin but we have not known how oxygen acted upon it. I have found that in lachithin there is phosphorus." Forty years ago the phosphorus found in the brain was called lecithin—and as used in medicine it was produced from the yolk of the egg. The phosphorus theory does away with the heat center in the brain as formerly taught.

—R—

Professor J. Tissot, Professor of General Physiology in the Paris Natural History Museum, claims to have discovered that mould is the original cause of all diseases as well as the source of all life. According to his etiologic classification of infectious diseases. Typhoid fever comes from the mould of Indian corn, diphtheria from a barley mould, cholera from the mould of certain mushroom fungi, measles from lettuce, scarlatina and rabies from carrots, exan-



thematic typhus from oats, small-pox from potatoes, chicken pox from tomatoes, aphthous fever from potatoes and malaria from rice. But cancer and tuberculosis are produced by viruses springing from a mould in the human body itself, while syphilis, he says, is not caused by spirochetes but by the ancestral mould constituting the monkey.

### Adrenalin

In the process of Adrenalin therapy, the chemist's proof that an active principle could be isolated in pure form from the suprarenal gland was only the first step. Commercial production was necessary—another step. And it would have been wonderful indeed if questions of purity, stability, compatibility, etc., had all been mastered at the very outset. It is reasonable to suppose that the manufacturers have endeavored by constant study and experimental research work to make their product as perfect as it could be made. Speculation of this sort is, however, hardly necessary. Adrenalin has kept its good name, and is entitled to the fullest confidence of the medical profession. (See the Parke, Davis & Co. advertisement elsewhere in this issue.)

**WANTED—Salaried Appointments for Class A physicians in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan, Chicago. Established 1896. Member The Chicago Association of Commerce.**

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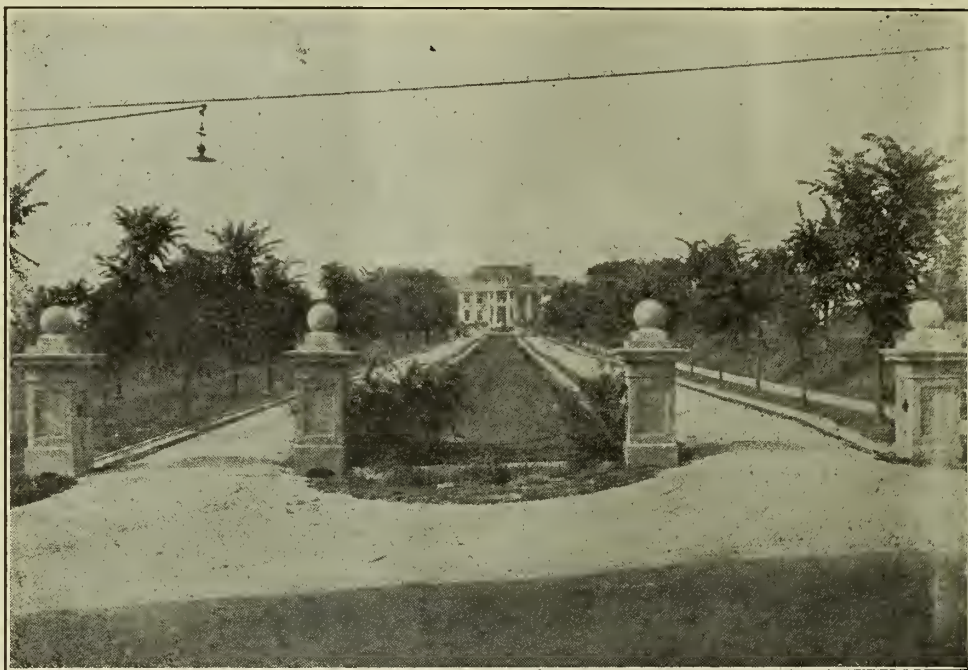
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For further information communicate with the Superintendent at Office or Sanitarium.



# THE JOURNAL

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## Kansas Medical Society

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### Trachoma

JAS. W. MAY, M.D., Kansas City

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, Kan., May 4-6, 1926.

It is not my intention to attempt to settle any phase of the trachoma problem, for problem it is. I will merely attempt to give an expression of some of the trachoma experts with excerpts of the recent literature, embellished with personal experiences and observations, and the presentation of slides emphasizing the differential diagnosis.

Considering the age of the disease, as Boldt has said, "as old as the Nile itself." it would seem that it must be incurable. However, it is curable at least in a sense. The American Medical Association Committee on Trachoma in 1921<sup>1</sup> says, "strictly speaking trachoma can not be cured though it may be arrested." Dr. John McMullen, Surgeon U. S. Public Health Service<sup>2</sup>, who has had vast experience in trachoma, says, "with the proper surgical procedure followed by the after care and treatment, any case of trachoma can be cured, the length of time required depending upon its duration, severity and other factors."

Needless to say extended efforts are being made to determine its etiology, much discussion as to the diagnosis and volumes written on its treatment. Trachoma is an inflammatory disease principally of the palpebral conjunctiva and tarsus, characterized in its worst form by great hyperplasia followed by atrophy, resulting in more or less lid deformity with corneal complications. It is widespread, endemic in many countries. Some high altitudes seem to be exempt, notably Switzerland. While it is extremely prevalent in the mountains of Kentucky and West Virginia. No one knows why. It occurs in all races, the Egyptians being very susceptible, 80 to 90 per cent estimated infected, while in the pure blood negro it is very rare. It may be interesting to know that practically all wrestlers are afflicted with trachoma.

It is on the increase in the United States. Again, no one knows. Statistics mean nothing; reasons, no systematic examinations are being made and in only part of the states is it reportable. Again the question of diag-

nosis has not been settled. There is much controversial discussion carried on as to differentiation between trachoma and folliculosis.

Some progress has been made more particularly as to treatment, and the veriest tyro knows the value and method of its prophylaxis. However, it would seem that a more definite wide spread plan should be evolved for its prevention, otherwise it will always be with us.

The types of trachoma are papillary and granular. However, according to Fuchs<sup>3</sup>, the so-called trachoma mixtum is most frequent and proven microscopically to be almost only form.

### ETIOLOGY

Stuckey<sup>4</sup> in 1921 sums up the situation in these words, "As I stated ten years ago I repeat today, I am not certain whether it is of bacterial origin, whether it is a fly-borne, insect-borne, house disease, or whether it is due to a specific micro-organism, but I am convinced that it is not as actively infectious as I thought then."

The report of the Committee on Trachoma of the American Medical Association<sup>5</sup> in 1921, summarizing says, "the true cause or specific causative agent of trachoma has not yet been positively determined. The disease is conveyed to a healthy eye from a diseased eye by means of the morbid secretions. The secretions therefore, contain the cause; but whether this is an organism or merely an organic substance we do not know with certainty." This about sums up the situation and that is, the etiology is unproven.

Dr. Kyoza Majima,\*\* under the title, "Studien uber Prowazeksche Korperchen, berondirs die Reinkulku von demselben" reports having found the prowazek bodies to be plentiful in the acute stage of trachoma in Japan. He succeeded in making pure cultures on agar food media at a temperature of 25° to 30° C. They grow very poorly if at all at a temperature of 37° C. Inoculation experiments on rabbits and monkeys have succeeded in producing a conjunctivitis from the secretion of which the prowazak bodies were recovered, but no follicles were produced. Dr. Majima is continuing his

studies of the Prowazek bodies, particularly the inoculation experiments, the results of which will appear in later publications.

The A. M. A. Committee further says trachoma is not highly contagious. Parsons<sup>6</sup> says, "trachoma is an extremely contagious disease," and that "bacteriology has failed to elucidate the pathology of the disease."

Dr. Harold Gifford<sup>7</sup> will probably agree perfectly with Parsons, as he reported to this society in 1920 contracting the disease from a droplet alighting in his eye while doing an expression.

Casey Wood<sup>8</sup> writes, "the most dangerous epidemics are those characterized by abundance of yellowish discharge, while a trachoma kept in check by systematic treatment possesses slight degree of contagion."

The foregoing shows the consensus of opinion as to its contagiousness, the difference being as to its virulence.

At home we started an interesting experiment which the advent of the war interrupted, and that was running Wassermanns on every case of trachoma. Of the 52 cases on which this experiment was made, 46 were positive. This proves nothing, as in the types of cases upon which it was tried one would expect a large percentage to be positive.

It would indicate however, the need for systemic treatment in the complications such as ulcers (iritis, keratitis and pannus).

Tuberculous individuals, particularly the so-called scrofulous type, are prone to acquire trachoma.

Various bacteria are found, none being pathognomic by their pressure. They are responsible in a large measure for the acute symptoms, particularly where there is much discharge present. Among these may be mentioned Kock-Weeks, influenza, Morax-axenfeld, staphylococcus, and even the gonococcus.

### SYMPTOMS

Probably the first are lachrymation, photophobia, pain, discharge of sufficient intensity to merely glue the lids together. This is quickly followed, as the intensity of the disease increases, with extreme redness and papillary hypertrophy of the conjunctiva and the appearance of granules, according to the type. Then ptosis, pannus, ulcers, etc., with entropion and trichiasis. With this brief statement I will proceed to the differential diagnosis which includes practically all of the symptoms.

There is much contention as to the diagnosis of trachoma, particularly is this true

in the early stages. The American Medical Association Committee<sup>9</sup> on Trachoma in their summary says, "the trachoma follicle can often in no way be certainly and absolutely distinguished from that of simple folliculosis."

J. W. Jervy<sup>10</sup> says, "no one can differentiate between folliculosis and trachoma in individual cases; the follicles in the early stages are absolutely indistinguishable." Granting these statements to be true then other clinical evidence is necessary to correctly diagnose trachoma from folliculosis.

First, folliculosis—it is essentially a disease of childhood and young adults, occurs in any walk of life, sanitary or unsanitary, rich or poor. It is essentially without inflammatory symptoms. The follicles are confined principally to conjunctiva of lower lid, never on bulbar conjunctiva<sup>11</sup>, usually arranged in parallel rows 1 to 2 mm. in size, discrete and raised above surface of conjunctiva, disappears in time without treatment with no pannus, corneal ulcers, scar tissue, shrinking of cul de sac or ptosis. Not contagious.

Trachoma—Round, opaque, ill defined bodies, grayish white deeply embedded, diameter may be 5 or 6 mm<sup>12</sup> sago grain appearance much more numerous in upper lid, deeply embedded in tarsus, structural changes always present in conjunctiva, papillary hypertrophy upper lid in most cases, pannus and corneal ulcers in 25 to 50 per cent of cases, trichiasis, entropion and shrinking of cul de sac frequent. Ptosis in practically 100 per cent of cases, and when not present due to excessive fat under skin of upper lid or relaxation of skin itself, occurs any age usually in poor sanitary surroundings and is actively contagious.

In suspected cases where follicles are pronounced I make it a practice to express the follicles with a ring forcep, care being taken to produce little traumatism. If the case gets well quickly with no treatment it is folliculosis. The patient is entitled to as quick a diagnosis as it is humanly possible to make, as the longer the disease persists the more destruction and the more severe the complications. I have seen very little scarring follow this treatment. In a recent conversation Dr. John E. Weeks agreed that it was a proper procedure and suggested the follicles be opened with a scarifier before expression. DeSchweinitz<sup>13</sup> says, "in stubborn cases expression of the swollen follicles with suitable forceps should be performed."

McMullen<sup>14</sup> stresses this point in tra-



choma, "the blood vessels of the conjunctiva are more or less obscured and it is not possible to trace them uninterruptedly from the ciliary border to the cul de sac, which would be possible in the absence of hypertrophy."

Vernal catarrh, particularly the palpebral type, Parinaud's conjunctivitis and acute catarrhal conjunctivitis may be mistaken for trachoma. Just recently I had a case of the so-called cobble stone variety which had been treated two years for trachoma. It might be interesting to know that a tarsectomy, removal of tarsal cartilage, seems to have cured this case. In vernal catarrh, symptoms of mild conjunctivitis, burning and itching, are worse in spring, young people usually. Met with in all classes, is sporadic and non-contagious. Two types, palpebral and bulbar, sometimes combinations of each. Everted lid presents in typical cases hypertrophied and mapped out polygonal raised areas not unlike cobble stones of milky hue. If questionable excise piece and find dense fibrous tissue with many eosinophile leucocytes<sup>15</sup>.

Acute catarrhal conjunctivitis symptoms disappear early with proper treatment. Parinaud's conjunctivitis—usually one eye, red or yellowish granulations on tarsal conjunctiva or fornices, swelling in preauricular and submaxillary glands and commences with fever and other constitutional disturbance.

Finally the circumstances of living, sanitation, presence of other cases in same family, school or neighborhood, must often be taken into consideration to establish a correct diagnosis of trachoma.

#### TREATMENT

Three stages, acute, sub acute and chronic.

Acute stage: H. W. Woodruff advises 10 per cent silver nitrate applied to lid, care being taken to protect the cornea, the excess being neutralized by salt solution. This is followed with 10 per cent dionin. He says, "if seen early before tarsus involved this one treatment followed by a short mild course, may effect a cure." Silver nitrate in 2 to 4 per cent solutions is the orthodox treatment. It is particularly true when much secretion is present. I invariably commence the treatment with a 2 per cent solution the only care being necessary is to prevent argyrosis. If this treatment is unavailing, recourse is had to the copper stick in the event there is not much reaction and no corneal ulcers present. However have used it with good results when those condi-

tions were present. Bichloride 1 to 5000 to 1 to 3000 is used by many as is formalin 1 to 3000. Alum stick has not given much satisfaction in my hands. Pull off granulations as soon as sago grain appearance identifies the disease. As I said before it is sometimes justifiable even though a positive diagnosis has not been made. Knapp's roller forceps or ring forceps are universally used for expression, the latter being preferable to the writer. During the acute stage of swelling often an external canthotomy is of great value relieving the pressure and exerting a marked influence to relieve the symptoms and shorten its course.

Sub-acute stage: Use mechanical irritants, silver 2 to 4 per cent, corrosive sublimate 1 to 500 massage, powdered boracic acid sprinkled on the conjunctiva and massaged thoroughly until bleeding takes place, with gauze wrapped around finger. This has given us probably as good results as any other treatment in this stage. Gratage is employed by many, Darier, Fox McMullen and Jacovides of Alexandria, Egypt, the latter having done more than 15,000 cases. As performed by Darier\*\* the lid is completely everted and the exposed conjunctiva thoroughly scarified with a 3 bladed scalpel after which it is scrubbed with a tooth brush which has been steeped in corrosive sublimate solution 1 to 1000 just before being used. Irrigation with milder antiseptics and no dressings applied. Care should be taken to remove all granulations particularly in the cul de sac, which must be exposed by pressing downward on the lid with an ordinary glove buttoner with a wire loop (McMullen's method), the patient in the meantime looking downward.

Chronic stage: Here is where surgical treatment is indicated and the operation for its cure is tarsectomy. It has as proponents Fox, H. W. Woodruff, Allport, J. Boldt and many others. Fox<sup>16</sup> quotes Boldt, who he says is the best informed of all writers on the subject and agrees with him when he states "we cannot here enter into the objections for the most part theoretical, of the numerous opponents of excision. They have long been refuted by those who have tried the method."

The operation was discovered accidentally by Heistrath in 1882 and popularized by Kunt in the late 90s. It may be done in several ways. In my hands the easiest and most successful way is this: good anesthesia is obtained with cocain instillations followed by injections of 2 per cent novo-

cain into skin and conjunctiva. The lid is everted and held firmly with forceps, a spatula supporting it. An incision is then made along the upper margin where the conjunctiva can be freed from the tarsus, the latter being dissected out clearly from all muscular structure. The tarsal incision is then made with scissors between the horizontal scar which corresponds to the sulcus and the lid border. Silk sutures are then placed, tied on the skin surface. Place sutures so there will be as little thread as possible come in contact with cornea; reason, might produce ulceration. (The sutures may be left out and it is my experience if the conjunctiva will lie in place, just as good results are obtained. Contra-indications to tarsectomy are atrophy of conjunctiva where a good cul de sac can not be maintained and acute corneal ulcer.

Dr. R. J. Curdy has good results in cicatricial trachoma with return of superficial ulcers and pannus with this formula: Ethyl-hydro-cuprein grs. IV, zinc sulph gr. I, aqua distil, ounces I. This he uses two or three times daily. The writer often uses in this stage gentle massage with silver nitrate one-fourth per cent, followed by dionin 10 per cent solution.

#### COMPLICATIONS

In the cicatricial entropion, nothing has been devised which can improve the Hotz operation, a classic which has stood the test of time.

Corneal ulcer is many times best relieved with cyanide of mercury sub-conjunctivally 1 to 1000 eight drops with four drops of 4 per cent cocaine.

In the severe form of pannus so-called crasus an infusion of seeds of jequirity is highly recommended, care being used to guard against sloughing. I have used milk injections intra-muscularly with gratifying results in ulcer, pannus and the acute exacerbations. However, it has no curative effect on the trachoma but there is certainly great relief from pain and amelioration of acute symptoms.

Stucky lately has emphasized the systemic treatment for trachoma and in a recent letter says he is regulating the diet and giving his patients large quantities of cod liver oil under the belief that there is lacking Vitamin A in the diet which may have its effect in producing trachoma. Likewise systemic treatment is indicated in patients whose resistance is below par from any wasting diseases.

Roentgen rays and radium have been and

are being used with no startling results so far proven.

Peritomy and peridectomy while not often indicated, have their places and in some cases, good results follow.

Canthoplasty is advisable where permanent widening of fissure is desired.

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#### The Campaign for Better Obstetrics

GEO. C. MOSER, M. D.

President American Association of Obstetricians and Gynecologists, Kansas City, Mo.

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, May 4-6, 1926.

In 1921, the American Association of Obstetricians and Gynecologists appointed a committee on maternal welfare consisting of Prof. Henry Schwarz, of the medical school, Washington University; Dr. Geo. W. Kosmak, editor of the American Journal of Obstetrics, and the speaker, who was made chairman. Some preliminary surveys were made in 1922, and in 1923 our committee was joined with one of the American Gynecological Society and the American Child Health Association under the title of the Joint Committee on Maternal Welfare.

Last year the work was broadened to be more comprehensive.

In the early summer of 1925 a meeting of a committee, under chairmanship of Dr. Robert L. De Normandie, of Harvard Medical School, was called by the Children's Bureau, to meet in Washington, to formu-



late a simple standard for prenatal care and obstetrical technic, and also to suggest a practical chart for general use, in the obstetrical service of physicians whose patients are confined in the home. This committee, in addition to Dr. DeNormandie, consisted of Dr. F. B. Kraker, Director of Maternity, Department of Welfare, of Washington, D. C.; Dr. Fred L. Adair, of University of Minnesota; Dr. Ralph Waldo Lobenstine, of New York Maternity Center; Dr. Frank W. Lynch, University of California; Dr. Florence L. McKay, Director of the New York State Board of Health; Dr. A. M. Pickett, of the University of Louisville; Dr. Otto H. Schwarz, of Washington University, and the speaker.

The report of the Committee and the Standards of Obstetric Care are now ready for distribution by the Bureau, of Washington.

A meeting of the Joint Committee, was held on the following day. Reports of subcommittees were heard; as nearly geographically as could be arranged an equitable division of the states was made among the members, these were to select speakers, associated with constituent societies, and other qualified obstetricians, to aid in the work of addressing medical and lay gatherings, on maternal welfare. I was given charge of the states of the Southwest, Kansas, Missouri, Oklahoma, Arkansas and Texas. Dr. Geo. W. Kosmak, editor of the American Journal of Obstetrics and Gynecology, announced the inclusion of a Department of Maternal Welfare to be established by the Journal, and outlined the scope of the undertaking. The committee was delighted with this, the first recognition of maternal welfare, by any medical journal in America.

During the year correspondence among the obstetricians of the various states in the region of the Southwest had resulted in an organization which is now about ready to begin to function. This has required a great deal of time because the whole plan of the undertaking is so much dependent on the personnel of which the group is constituted.

The Kansas Committee is being developed under the chairmanship of Dr. John D. Clark, of Wichita, who is eminently fitted for this executive work and who is selecting active helpers in the state who will carry on as requests come to the State Secretary for speakers and conductors of obstetric and welfare clinics.

A brief outline of the accomplishment of the committee may be of interest.

We have mailed to the Secretary of each state medical society an appeal for more obstetric papers and more discussions on obstetric topics at the annual meetings. We have also attempted to secure through these officials the cooperation of the county secretaries under their jurisdiction in a similar service. The activities of the committee were thus centered in 1924 and 1925 in a program to stimulate a demand for better obstetric literature on the part of the profession. This appeal was made to those whose cooperation should be of the utmost importance in increasing interest in maternal welfare.

We have taken up with the maternity and infant welfare divisions of the state boards of health the questions that they will find of interest, for example, registration of births, prenatal and maternity clinics, talks to mothers and prospective mothers.

We have suggested to the state boards the appointment of Regional Consultants in obstetrics. These have become such a successful adjunct, especially in New York and Ohio, that we hope that such appointments will become universal.

The work of maternal welfare will be greatly forwarded if we can succeed in our endeavor to organize a corps of consultants, selected as representing the various sections of the states of the Southwest. These will aid the State Chairman as he finds he can use their services.

Letters have been sent to the editors of each of the medical journals urging that as much space be given in their columns to propaganda in behalf of maternal and child welfare. We are considering the advisability of proposing to each state society the creation of a section of obstetrics which should be responsible for the program of obstetric papers.

So far, the work of our committee has been largely devoted to propaganda in behalf of better obstetrics, especially in the matter of prenatal care, by the methods just mentioned. The joint committee hopes that this method may be the opening wedge in breaking up the vast mass of indifference which, evidently, is at the root of our present inert condition.

Indifference is a greater obstruction to progress than ignorance. It is realized that this is a big undertaking for a small committee with very limited means.

However, some idea of the appreciation of the work of the committee may be realized when we note that our report of last year was quoted by Dr. McMurchie, in the

1925 Canadian Public Health Congress, abstracted by the Year Book in Obstetrics whose editor, Dr. Greenhill, is your guest of honor today; by the Dental Cosmos of Philadelphia; by Hospital Progress, a journal published in Milwaukee, and by editorial comment of a number of State Medical Journals, throughout the year.

In 1909 Dr. Schwarz was a member of the committee of 100 on reform of the medical college curriculum, attended the meeting as a representative. I acted as the representative of the University of Kansas Department of Obstetrics, of the Curriculum Committee, of the American Medical College Association, held in Baltimore. We were both struck with the incongruity of the division of the time of the undergraduate student of medicine, with reference to the importance of the subjects which go to make up his hours in the third and fourth year. Dr. Schwarz's views were set forth in the American Journal of Obstetrics and Gynecology, No. 1, 1912, No. 6, 1916, and both reports are published in the transactions of the College Association.

No great advance was made following these meetings and from the report made last May, before the Medical College Association, by Dean Rowland, of the University of Maryland, whose paper was published in the Journal A. M. A. in 1925, very little change has since been observed.

It has always occurred to us, that surgery in general, which for the average practitioner, is a matter of diagnosis and minor emergencies, has been accorded an importance, quite out of proportion to the value it will be in his work, in his own practice; which in relative value will be about as follows: medicine 50 per cent, obstetrics 35; minor surgery, fractures, life insurance examinations, etc., 15 per cent.

Consequently this year so that the schedule of the hours assigned to the branches of the curriculum could be made available, for a comprehensive study, of the comparative limits, of the various required and optional courses the chairman has asked the secretary of every medical college in the United States to send us a copy of the medical school's catalogue announcement. Since nearly every college responded, the figures as made out are approximately accurate. A careful analysis agrees with the report of Prof. Rowland, who found in his study, that the time allotted to obstetrics, in college, is about 4 per cent; and 18 per cent is the general average of the hours for surgery, exclusive of the surgical specialties.

Now let it be understood the Committee

is not finding fault with the teachers of surgery, for securing these hours of instruction. The contrast between the practical need, in the student's course of obstetrics, which is to become so large a volume of his life work, and major surgery, of which the general practitioner will make so little use, is the point to be emphasized. He must know his obstetrics. It comes in his daily problems and the end of each emergency may be fatal. The glaring fault of high morbidity and high mortality in obstetrics as D. Lynch, Dr. Newell, Dr. Davis and Dr. Rowland argue, is that the neophyte in medicine is self taught in obstetrics. He has forgotten the didactic lectures he had heard, before his final examination, and he had not sufficient clinical training to give him control of the principles of obstetrics, necessary for the recognition of toxemia, mal position, pelvic deformity, and all the dangers which beset these two patients, which dangers he must encounter, perhaps in his first private case.

Consequently he goes into the home of the unsuspecting woman who without knowledge of his lack of training and experience, has called a doctor to care for her in her labor.

In absolute contrast to the work in the hospital where he has had constant supervision, and an expert nurse of ability, to arrange his patient, he takes charge in an unknown field. In the hospital and clinic he has been dependent on the result of his diagnosis, technic and the post partum condition of the patient for his grades, which are to play their part, in his final examination. In the home, with little or no preparation, no material for asepsis, no assistance and above all, no intelligent supervision, he takes the chance that what he fails to do, will not find him out; often this bluff succeeds, more often it fails.

Without careful measurements, nor diagnosis of presentation and position, with a desire to get through and get away, he becomes restless; or the family shows a disposition to want something done. He makes a vaginal examination, repeats it again, and again. This expedient reveals nothing to him, but it is the basis of an assurance that "everything is alright." If the delay is extensive, he puts on his forceps, without knowing if dilation or rotation has occurred, or he does a version, with equal temerity. The result perhaps, for the infant, an intracranial hemorrhage, certainly for the mother, a badly lacerated cervix and perineum; perhaps, again, a severe post partum hemorrhage. The third or



fourth day, a chill and temperature disturb his equanimity; sepsis develops. Another death from malaria or summer "flu" is to be added to the maternal risk rate. This is not a fancy sketch, but it is simply an illustration as to why Dr. Lynch says the self taught young doctor adds to the score of our needless mortality.

Dr. Rowland, in his paper, quotes liberally from our Report on Maternal Welfare, for 1924, as to the convincing facts of this most radical defect in teaching, and his deductions are in harmony with these we have set forth.

This subject is so vast and essential that it can only be mentioned in our own brief report. The Committee would like every teacher of obstetrics to read Dean Rowland's paper, and to call it to the attention of the authorities of the schools, so that this one defect in medical education may be corrected.

The plea of the Committee is that less time be devoted to those branches of study, more or less cultural, in the curriculum, and more hours given to this one subject, which does not now have the attention its importance makes essential.

It is not expected that the general practitioner will do cesarean section, or other operative obstetrics, but he will do many phases of the work which demands a thorough apprenticeship.

The specific recommendations of the Committee are that the amount of obstetrical teaching be increased so that instruction in the third year should consist of at least three hours a week, throughout the year. This to include a review of anatomy, physiology of the pelvic region, with study of normal pregnancy and the mechanism of labor. Consideration of version, breech extraction, forceps delivery, etc., should not be included, but these are all to be taught by use of the manikin in small classes. History taking, diagnosis and examination of the clinical patient demands at least thirty hours. During the last half of the third, the student is to attend fourth year lectures, on clinical obstetrics. The fourth year group work in physical examinations in the hospital wards and dispensary are supplementary to the drill in manikin work with which it should go hand in hand. It is imperative that the student should see as much operative obstetric delivery as is possible. By visualizing the actual demonstration, he is brought face to face with these difficulties, before he is forced to assume the responsibility of the personal management of the abnormal type, dependent on his own un-

guided resources. Obstetrics should occupy in this scheme of curriculum, fifteen per cent of the hours of the last two undergraduate years in the medical school.

A questionnaire relative to the reasons for our high mortality rate secured valuable suggestions. In a most interesting letter, Dr. Frank W. Lynch of the University of California, a member of the joint committee, discusses the question. One of the greatest faults is in the teaching of obstetrics. There is a woeful lack of sufficient clinical drill in practical delivery and follow up work in maternity cases under competent instructors. Seventy-five cases is the minimum that should be demanded of the neophyte before he is allowed to go into practice for himself. The ordinary student does not see enough obstetrics to impress proper procedure upon him. Constantly fifth year students working in hospitals throughout the country<sup>6</sup> tell of methods which they were taught to consider dangerous but which they find have been followed by other, before their day, without mortality. In consequence, they are impressed with this type of a demonstration rather than with all the didactic work in the medical school, which they probably have already forgotten. The stabilizing effect of properly conducted maternity hospitals has not been sufficiently emphasized in reports of our committees.

I feel that there is much bad obstetrics simply because men teach themselves. The chief cause of maternal mortality, however, is that doctors do not like to wait. There exists a desire to substitute surgery for normal processes. The world is in a hurry. For this reason, classic indications for interference no longer hold. In California, after a day or two of waiting, cesarean section is a common occurrence; nor is the death of the child considered a contraindication. This feeling has developed because all too few doctors had any apprenticeship in obstetrics. They have taught themselves their own system. Among the suggestions of Robert L. De Normandie of Harvard Medical School, also a member of our committee, is that there is a wave of radicalism, all over the country, in teaching obstetrics. This is not coming, however, from the best colleges. Another fact is, that the public is not educated to the importance of good obstetric service and will not pay adequate fees corresponding to similar ability of the general surgeon. The result is that the average man doing obstetrics is not of the type of the first rate surgeon. Obstetrics does not attract the best men.

The tremendous hustle of modern life unquestionably brings too much tendency to interference done by men who in many cases have absolutely no training in operative obstetrics. These men hesitate to call consultations fearing that it will be a sign of weakness. If counsel is called, it is a surgeon whose obstetric instinct is for a cesarean section as a quick and easy way out of the difficulty. This situation will not improve until obstetrics assumes a more important place in our medical curriculum. No matter what the student thinks he will do after graduation, he attends obstetric cases, anyhow.

Pressure must be brought to bear on all medical schools to compel them to give students more training in obstetrics. The young graduate must have an opportunity, at least to learn something of the management of normal labor before being turned loose on the community. Both Dr. DeNormandie and Dr. Lynch affirm that lack of conscience on the part of those doing the bulk of obstetrics is to blame.

As contributing causes of morbidity, DeNormandie suggests:

1. Examinations without sterile gloves.
2. Interference by intrauterine douche.
3. Delivery by version and extraction.
4. Craniotomy.
5. Manual extraction of placenta.
6. Cesarean section.
7. High forceps and mid-forceps.

The indiscriminate resort to cesarian section is mentioned by all of the joint committee as one of the serious difficulties tending to raise both morbidity and mortality. It is one of the outstanding offenses against humanity, which is to be regretted as a fashion spreading far too rapidly.

Every county seat clinic is doing cesarean section for the most trivial cause. In several of the state board of health reports cesarean section has the third highest mortality rate, following sepsis and eclampsia, both of which we must remember are also 90 per cent preventable.

In November, 1923, at Cook County Hospital, Chicago, I was shown by Dr. Hillis, the ruptured uteri of four patients who had been primarily delivered by cesarean section and in the second delivery the attempt had unfortunately been made to deliver these patients by natural passage, and the tragedy which followed the event points its own moral. It is only necessary to quote Dr. Hillis to impress the danger of this problem of obstetrics.

If I may be pardoned for bringing up a

controversial point I want to condemn in the strongest term the use of pituitrin in the first or second stage as a general accelerator of labor. It is, in my opinion, one of the most dangerous obstetrical expedients. Not but that it does its work well, but like an automobile with no driver at the wheel, it runs amuck. We have had three women die in our hospital for negro women in the last three years, the diagnosis being ruptured uterus, afterward confirmed by post-mortem. Numerous cases of sudden death of women in labor, otherwise unexplainable, have been reported where pituitrin had been used.

As to interference in posterior positions, such specialized manipulations are always individual and not general. We cannot standardize any type of delivery excepting that of the management of normal labor. We know that 90 per cent of posterior positions of the occiput will finally rotate, so we should adopt a policy of watchful waiting unless pelvic or foetal dystocia demands interference.

Dr. Hugo Ahrenfest, in the February, 1925, number of the American Journal of Obstetrics publishes a most valuable article on the head injuries of the new born. I wish every person doing any obstetric practice would read this discussion. It deals with the question of the comparative danger of undue pressure and the risk of application of forceps as the probable cause of brain hemorrhage. He stresses the importance of careful measurement of the pelvis and the approximate diameters of the foetal head. An appeal is made for more careful discrimination and for the exercise of the obstetric conscience, in the interest of both mother and child.

According to Dr. Levy of Newark, who has studied the statistics carefully, midwife conduct of labor does not seem to be the danger in the cities which we formerly considered it. However, she is gradually disappearing as a problem except in the country districts.

Conclusion of the survey of conditions respecting mother and child demonstrates the woeful need of the study of maternal welfare. The uncertain quantity is evidently not so much the pathology of the patient nor the meddlesome interference of the midwife. It is unfortunately to be found in our own ranks.

Rudolph Holmes says, "Medical attendants, in general work, carrying potential infection by coming from all sorts of communicable diseases into the lying-in room, making internal examinations without



washing the hands or using sterile gloves, the injudicious use of pituitrin, attempting forceps delivery without ascertaining the degree of dilatation, the position of the head, or the foetus, nor using maternal pelvimetry, will go on so long as no means are found to check such reckless methods of hasty obstetric treatment. These are the great source of high morbidity and mortality. The delivery in the home has unfortunately no check. But it is possible in the hospital to investigate septic outbreak. Any physician, says Holmes, who has puerperal sepsis develop in his practice, should be required to explain the etiology; if satisfactory, a signed indorsement of his treatment should be given him by some medical officer. If not, he should be disqualified. The doctor is the great disseminator of sepsis.

My own opinion is that Dr. DeLee and Dr. Holmes are too literal and rigid in their conclusions. We see sepsis in many instances where the patient has delivered precipitously, having no vaginal examination, clearly an auto-infection or accidental contamination. In generalization, we must not analyze too closely the specific examples. However, we must admit that we all need education.

We now come to the consensus of opinion of the committee, which may be thus briefly given; as follows:

First, the medical profession must recognize the fact that it is not flawless. We need a campaign of education. Some of the causes of maternal morbidity and mortality are due to:

- (a) Insufficient teaching of medical students in the colleges in actual conduct of labor;
- (b) Inadequate preparation of students, so often forgetting all didactic instruction;
- (c) Failure of physicians in charge of maternity cases to apply their obstetric knowledge.

Second: On the part of the laity, the contributing causes may be given as:

- (a) Ignorance of women, almost hopeless, of the simplest truths of life.
- (b) Abortion, criminal or preventable. A nation-wide education is imperative.
- (c) Neglect of early consultation with the physician.
- (d) Following superstition or advice of faddists and cultists regarding

childbirth, usually harmful or disastrous.

- (e) Indiscretion regarding diet and exercise; indulgence in questionable pleasures, fast living, smoking, drinking and other pastimes.

#### HOSPITALIZATION

The advantage of hospitalization is more and more being emphasized. Eno claims that there is a maternal mortality of 8 per cent in house cases and of but 2 per cent among those in the hospital.

Morbidity of primipara is four times that of multipara.

Morbidity is markedly increased through long labor with frequent vaginal examinations, the increase being variously estimated at 33 to 75 per cent.

We are justified in reinforcing our conclusions by this argument for better obstetrics, since with a clientele whose situation is thus handicapped by such appalling risks, these cases must be approached with a profound appreciation of the serious responsibility which is to be assumed.

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#### Factors Influencing High Mortality in Appendicitis

HART GOODLOE, M.D., Independence, Kans.

Read before the Montgomery County Medical Society, April 16, 1926.

I invite your attention to some of the important factors influencing the high mortality in appendicitis, especially concerning diagnosis and treatment. There seems to be an apparent laxity, bordering on indifference, as to our general attitude towards this disease, possibly due to so much having been said and written on this subject, or it may be that the idea prevails that there is very slight danger, as some would have you believe.

The mortality is a serious proposition, and that it is on the increase, is shown by vital statistics. In a recent review of statistics from several hospitals, it is estimated that about ninety per cent of children having appendicitis were diagnosed as having gastritis, enteritis, acute catarrhal inflammation of the intestines, "intestinal flu," etc. Of this ninety per cent, more than one-half were never examined, that is, no physical examination was made in order to ascertain the true cause and condition of the intra-abdominal disturbance.

A careful history, as well as a careful physical examination in any abdominal symptoms, is essential to a definite diagnosis. The importance of an early diagnosis

should be realized by every doctor practicing medicine. He cannot expect to give his patient the best treatment and obtain the most perfect results without this early diagnosis, and he owes it to himself as well as the patient to make certain. The crying shame of today seems to be a tendency towards haste and snap judgment with ready response to the patient's plea for immediate relief by the administration of narcotics, thus masking all symptoms and preventing a definite diagnosis.

The so-called classical symptoms of acute appendicitis occur in the following order, viz:

1. Pain in the epigastric region.
2. Nausea and vomiting.
3. General abdominal pain.
4. Localized tenderness over McBurney's Point.
5. Temperature.
6. Abdominal rigidity.

There is hardly any excuse for a doctor not making a diagnosis in the classical type. We have to admit that all cases are not classical, just as we have to admit that all inflammations have not the same virulency, nor has every patient the same immunizing power. It is sometimes several hours before a definite diagnosis can be made if the patient is seen at the beginning of an attack, but more often the condition is several hours old before medical aid is called. We know that some attacks are mild, some very severe, some acute, or chronic. But the history is your guide as to the character of the disturbance with which you are dealing. So you will see the extreme importance of the history for it will enable you to correctly interpret the meaning of the symptoms in their chronological order.

After the history is obtained and physical examination is made, both a total white blood cell count, as well as a differential count, should be made. In all acute inflammations we have a leucocytosis. Do not be deceived by a low leucocyte count when the appendix is involved, because often this will be found in a severe gangrenous appendix. There was a time when the polynuclear increase in a leucocytosis was considered diagnostic of an inflamed appendix, but we know now that it denotes only the patient's resistance to the inflammatory process from the invading micro-organisms; at the same time that the count is made, a test for determining the time

of coagulability of the blood should be made.

Before a definite diagnosis is made, there are a few important DONT'S.

1. Do not give opiates of any kind in any way.
2. Do not give cathartics.
3. Do not give large enemas.
4. Do not give food, water or *anything* by mouth.

While waiting to make a definite diagnosis, apply heat to the abdomen and insist upon absolute rest.

When a definite diagnosis of appendicitis is made, internal medicine has absolutely no place in the treatment. I cannot make this too strong. It is strictly a surgical disease. The patient should immediately be transferred to a hospital and the appendix removed. There is nothing to be gained by delay except greater risk to the patient and an increase in mortality; for in the early stages of inflammation, confined to the appendix alone, there is little or no danger in a simple appendectomy under present aseptic surgery. Delay is dangerous and increases directly in proportion to the tardiness of the operation. Why then subject the life of the patient to unnecessary risk? Let us consider other advantages of appendectomy:

1. The patient is practically sure of recovery.
2. In a week or ten days, should be able to resume their daily duties.
3. Can not have a recurrence.
4. Eliminate complications, adhesions, metastatic abscesses, empyema, septic endocarditis, thrombo-phlebitis, peritonitis.
5. Infections of the pelvic organs of the female, dysmenorrhoea, sterility, ovarian cysts, etc.
6. All gastric symptoms are eliminated that occur in the recurrent appendicitis.
7. Drainage will be unnecessary, hence no post-operative hernia.
8. Suffering reduced to a minimum.
9. Removal of a possible focus of infection.
10. The economic loss to society.

Ochsner, whose name will ever be associated with appendicitis, in one of his last discussions of this disease and its treatment, remarked that almost any surgeon,



under the present aseptic surgery, could perform appendectomy in the early stage successfully but stated further, that when confronted with complications that do occur when the condition is more than a simple inflammation, the end results and low or high mortality are dependent on the judgment, experience, and skill of the operating surgeon.

Now let us consider the phase of appendicitis with its complications. The clinical symptoms are more severe in these conditions than in the acute as a rule, but sometimes in gangrenous conditions, they are just the reverse, for there is only slight pain, very low fever and slight leucocytosis. The examination of the urine here may be helpful, for, when clinical confirmatory symptoms are well established, urine examination that reveals the presence of bile, almost invariably accompanies an advanced suppurative or gangrenous appendix. In fact it is so universally true that one is justifiable in expressing an opinion.

Without going into minute pathology, we know that the appendix often becomes gangrenous and will slough, allowing the contents of the appendix to discharge into the abdominal cavity. We know that there are conditions where the appendix will rupture from over distension, or the inflammatory condition may leak through by osmosis or spread by metastasis. In all of these conditions a peritonitis is caused. If a general peritonitis develops, there is no hope. This condition is fatal. Therefore our hope and aim is to arrest the development in the hope that it will become a local or diffused peritonitis instead of spreading and becoming general.

To accomplish this end, several years ago, Ochsner advanced what is now called the Ochsner Treatment, viz: rest, starvation, opiates to control peristalsis, nothing by the mouth, rectal enemas, and an operation when conditions become favorable. The modern surgical opinion considers this too conservative and is now using the Ochsner Treatment as post-operative rather than pre-operative except where, in the outlying districts, in acute peritonitis, time and rough roads prevent the safe transportation of the patient to a hospital.

The typical symptoms in a perforation of the appendix during the acute stage are cessation of pain, followed shortly afterwards by a severe chill. (this, of course, being due to rapid absorption of toxic products), then pain over the whole abdominal region, nausea, vomiting, hic-cough, (the latter being often one of the

most persistent symptoms), a rise in temperature, terrific toxic headache, shock, complete stasis of peristalsis, and marked rigidity of the abdominal muscles.

Under these conditions, (that is, where hospital facilities are not available for any reason,) I would suggest the following as the line of treatment:

1. An improvised Fowler bed, made by raising the head of the bed by placing boxes or chairs under it, then improvising a hammock by rolling a blanket in a sheet folded triangularly, tying the two ends of the sheet to the head of the bed, so that the patient sits in the improvised sling.

2. Absolutely nothing by mouth—medicine, water or food.

3. Opiates hypodermically.

4. Retaining rectal enemas of hypotonic salt solution or sterile water after the opiates have taken effect.

5. When abscess is frank or firm, the patient can with every degree of safety, be transferred to a hospital.

6. Operate, and by operate is meant *drainage* only. It is not surgery to make any attempt to remove the appendix. Once in a while one may get by with such crude work but that is no justification for doing it, in fact, it is more than sufficient grounds to desist from such practice, considering its high mortality, for 99 out of every 100 cases, the appendix will slough away and life is worth more than the vain glory of removing a sloughing appendix that Nature will take care of if properly drained.

Where hospital facilities are available, the patient should be removed immediately for surgical operation.

Just a word or two in regard to pathological conditions and Nature's defense. When a rupture has taken place in the appendix, the peritoneal surface has become contaminated with pus, bacteria, and debris. It is then that the peritoneal cavity is in what may be described as—

- A. The stage of contamination.
- B. The stage of reaction.
- C. The stage of peritonitis.

The operative procedure depends largely upon which stage the patient has reached. The judgment of the operating surgeon has a great deal to do with the success or failure in all complicated cases. Just how much can be done under certain conditions with success, and when to place proper drainage only, with the least possible disturbance

to the abdominal organs, is surgical judgment that does not come from text-books. The great tendency of some is to remove the appendix regardless of conditions, thus spreading the infection by manipulation of the tissues, causing many needless deaths by the extension of the local or diffused peritonitis beyond the bounds of human endurance. The problem is absorption, the less the area involved, the less the absorption, for it is now known that the absorption is the same whether it is high or low in the abdomen, contrary to the belief that there was less absorption in the lower abdomen. If there is any difference, it is very likely due to the movement of the diaphragm in respiration, vomiting or hicough. Laboratory experiments have shown that hypotonic solutions are absorbed very rapidly, while hypertonic fluids are slower because they are reduced to isotonic fluids by the peritoneal exudates before absorption can take place. Experiments have demonstrated that the absorbing power of the peritoneum to be about 40 per cent of a hypotonic solution in the first thirty minutes. Blood begins to be absorbed in four hours and is complete in about forty-eight. In the early stages of ruptured appendix, the absorption, though not as fast as in a hypotonic solution, is nevertheless rapid at first, but just as soon as the hyperaemia and inflammatory exudate with lymph flakes appear, together with the engorged and damaged endothelium, absorption is retarded. A profuse peritoneal exudate is not considered a good omen.

During the stage of contamination:

- A. Toxic products may be introduced in such quantities that the patient may die of intoxication before the defensive functions of the peritoneum can be mobilized.
- B. And on the other hand, less virulent micro-organisms, in small quantities, may be destroyed before they can do harm.
- C. The main factors governing this condition are the amount of infective material, the virulency of the micro-organism, the state of preparedness of the peritoneum to resist the invasion.

The stage of reaction is the response to the stimulus of invading toxins, creating exudates, intra-abdominal pressure as well as intra-peritoneal pressure, minimizing movement as well as absorption, and aiding in the formation of adhesions. The stage of reaction is purely protective.

The stage of peritonitis is where active infection has set in in the peritoneum with its accompanying symptoms. In the presence of these conditions, there is no surgical procedure that requires more judgment and skill as to what is best to be done. The treatment is to operate immediately except where there is extreme shock, or marked abdominal distension from paralysis of the intestines, from general peritonitis. In the former condition, the aim is to minimize absorption, localize the infection as enumerated before—for example, opiates, heat to the abdomen, Fowler position, Ochsner treatment, intra-venous hypotonic salt solution. (This solution overcomes the acidosis and saturates the tissues so that it inhibits the absorption of liquids from the abdominal cavity) and then await more favorable symptoms for operation. We found, in France, that hyptonic salt solution or five per cent bi-carbonate of soda solution was most beneficial in all severe wounds accompanied by shock, particularly abdominal wounds and it became the standard treatment. This has become more or less a general routine in civil surgery.

In the later conditions, when general peritonitis has set in with marked abdominal distension, with paralysis of the intestines, it is too late to hope for results.

The pre-operative points to be considered after determining the condition of the patient is choice of anesthetic, method of operation, site of incision, time required, shock, and drainage. It is not my purpose to discuss pre-operative points but to give an outline of the main points to be stressed in regard to treatment of these complicated cases:

1. Absolutely nothing by the mouth.
2. If nausea and vomiting be present, gastric lavage.
3. Morphine and atrophine before anesthesia.
4. No large enemas should be given.
5. The least possible movement of the patient.
6. No vicious scrubbing of the abdomen in preparation for the operation.
7. Opening the abdomen is one of choice.
8. Place proper drainage and nothing more.
9. Plenty of room should be left in the abdominal wall for drainage.
10. Fowler position should be maintained as soon as the patient is out from under the anesthetic, or the St. Louis position.



11. Intra-venous injection of a pint of hypotonic salt solution, 5 per cent bicarbonate of soda solution, or sterile water every three or four hours.
12. Murphy rectal drip using the above solutions is supreme and should be maintained by all means. In addition to these solutions, a 5 per cent glucose solution may be added to the list.
13. Morphine given in doses sufficient to keep the patient quiet, even to reducing respiration down to 10 to 12 per minute. In those cases where there is wild delirium from the morphine, I would suggest adding 1/150 grain of scopolamine, to every second or third dose of the opiate.
14. Heat to the abdomen, diathermy and quartz light as recommended by Crile.
15. About the second or third day, Dakin solution should be used every three hours to fill up the abscessed pocket.
16. Do not be in a hurry to give anything by the mouth. These patients can be fed by rectal feeding for many days.
17. Do not be in too great a hurry to remove the drainage.

In my own series of 246 cases, 184 were simple appendectomies with the loss of two cases, one of these being from ether pneumonia in an under-nourished Italian girl, with a history of recurrent attacks, and the other developed a general peritonitis and died, regardless of a secondary drainage operation and general treatment outlined herein, six days after primary operation. Thirty-nine cases were complicated, with a loss of two cases. Twenty-three appendectomies without a loss during other laparotomies, whether the appendix showed involvement or not, because I believe this to be good surgery when the patient's condition permits.

The average age of all operative cases was 26 years, thus showing that this condition is more prevalent during the most active and potential period of life. Do you appreciate what this means? Willis says in his compilation of vital statistics, "It is appalling to realize that the number of deaths annually from appendicitis equals all of those from salpingitis, pelvic abscesses, surgical diseases of the pancreas, spleen, thyroid, gall stones, and ectopic pregnancy. Eighty per cent of the deaths from appendicitis occur before the fiftieth year, while only one-fifth of the deaths from cancer occur before the age of 50. Before the age of 60, there are about 4000 more deaths annu-

ally from appendicitis than there are from diabetes. Think of what these figures mean from an economical standpoint. The vast majority of those who succumb to appendicitis are lost during their productive years. Those who die from cancer or diabetes have in most instances passed the stage of usefulness."

— R —

### Surgical Mumps

ROBERT B. STEWART, M.D., Topeka, Kansas

Within the past fifteen years I have encountered the post-operative complication of Parotitis, or Surgical Mumps, fourteen times:

- 3 in appendectomies. Two were suppurative, bilateral. One simple, unilateral. All three cases were late coming to operation with suppuration.
- 2 in salpingectomies, 1 bilateral, simple; 1 bilateral suppurative.
- 2 in cholecystotomies, 1 bilateral, simple; 1 bilateral suppurative.
- 1 in prostatectomy, bilateral, suppurative.
- 1 in intestinal obstruction, cancer of colon. Unilateral, simple.
- 1 in thorocotomy for empyema, unilateral, suppurative.
- 1 in gastro-enterostomy for duodenal ulcer, unilateral, simple.
- 1 in amputation of shoulder for infection, unilateral, suppurative.
- 1 in incision for drainage of retroperitoneal abscess of undetermined origin, bilateral, simple.
- 1 in Baldy-Webster operation and removal of uninflamed appendix. Bilateral, simple.

Post-operative parotitis or "surgical mumps" is an infective inflammatory condition of the parotid gland which is occasionally observed following surgical operations, especially abdominal operations. The glandular involvement may be unilateral, or bilateral, and in a review of the literature about one-third of the cases appear to be of the latter type.

The frequency of occurrence of post-operative parotitis varies according to different authors. Collins<sup>1</sup> states that in 6100 operated patients parotitis was observed seven times. Picque<sup>2</sup> saw only two cases in 7200 operations; both these cases occurring in infected patients. Fisher<sup>3</sup> in 30 years' practice, saw some twenty cases.

Although most writers on the subject agree that post-operative parotitis is more frequently seen after abdominal operations, it may follow operation in other regions.

Paget and Auld<sup>4</sup> observed it after an operation for rectal stricture; Fisher<sup>3</sup> after an operation on the hip-joint; and Kahn<sup>5</sup> after a prostatectomy. Some consider that parotitis can follow any operation necessitating prolonged anesthesia. Juffier<sup>6</sup> believed that the complication could follow the use of chloroform as an anesthetic. Fisher, however, states that he had observed parotitis after all kinds of anesthesia, including local, so that this factor cannot be considered as essential. The local infective agent is usually the staphylococcus, or streptococcus; occasionally, the pneumococcus, one or more of these types being found. These microbes are the usual inhabitants of the body which are aroused into a condition of activity by general or local conditions arising from operative manipulation and their sequellae.

Post-operative parotitis can be considered as a local manifestation of a general infection, due to particular local conditions following operations; or as a direct ascending infection of Stenson's duct favored by dry mouth and lack of body moisture. The direct glandular infective theory was first put forward by Hanau<sup>7</sup> and by Pilliet<sup>8</sup> in 1899 and is that which is most generally accepted. According to these authors, the inflammatory process begins in the region of the glandular duct and is not a peri-vascular inflammation. This excludes the infection being considered hematogenous or lymphatic in origin. Bachrach<sup>9</sup> also considers that the route follows hunger treatment, dry mouth and rectal feeding, all of which contribute to a disturbance in the parotid gland secretion, giving rise to a condition in which local microbes easily propagate and directly impact the gland duct. Spreading of the infection is thence ascending through Stenson's duct, especially if there is some existing infection or pre-disposition on the part of the patient. That a parotitis may develop under such conditions and not necessarily be connected with a surgical operation is seen from the report of Rolleston and Oliver<sup>10</sup>. These writers from the consideration of 1000 cases of gastric ulcer medically treated, think that secondary parotitis occurred ten and one-half times more frequently in such cases than in cases allowed fluid by the mouth.

Fisher<sup>3</sup> who has made a very extensive study of post-operative parotitis, thinks that anatomic facts definitely exclude the transmission of infection to the parotid through the lymphatic channels of the mouth. Fisher thinks that septic parotitis

is of hematogenous origin and that cachexia is a predisposing factor. Susceptibility of the gland to infection is favored by stasis, the glandular secretion being interfered with by surgical shock. Fisher's clinical findings will again be referred to presently.

Post-operative parotitis may evolve in different ways. Deaver<sup>11</sup> classifies it as *metastatic* (occurring only in pyemic conditions); *ascending parotitis*, due to ascending infection via the excretory ducts; and *traumatic parotitis*, due to forcible manipulation or pressure during anesthesia. In regard to the last, Fisher made extensive inquiries and found that traumatism during anesthesia appears to have little or nothing to do with development of post-operative parotitis.

Fisher's classification of post-operative parotitis is based on its clinical manifestations, as follows:

- (1) *Acute parotitis*, or simple inflammation.
- (2) *Acute suppurative parotitis*
  - (a) Circumscribed or lobular parotitis.
  - (b) Diffuse parotitis.
- (3) *Gangrenous parotitis*.

Fisher regards parotitis as infective. Though the operation may be clean, there are foci of infection somewhere and probably bacteriemia. The patient's susceptibility and the state of the parotid gland will determine the type of the parotitis.

Acute parotitis follows operation in from three to five days, or later. It is ushered in by malaise, slight elevation of temperature and pulse. Stiffness of side of face, swelling of the parotid with pain on pressure. This is the common type and subsides in three or four days under treatment with no complications.

In the circumscribed type of *acute suppurative parotitis* with abscess formation, the local and general symptoms are intensified; the infective process attacks the lobules and spreads to the glandular structures; Stenson's duct remains patent and pus exudes easily. This type usually recovers under treatment; the duct must be kept open and if occluded, must be probed for calculi which occasionally exist.

The diffuse type of acute suppurative parotitis is rarely met, and is a grave condition. The beginning symptoms are similar to those of the other types, but increase both subjectively and objectively. Suppuration is early, within 36 to 48 hours; there is immense swelling of the face, dysphagia,



meningeal and nervous complication, rigors, chills, high temperature, rapid pulse, increased leucocytosis. If there is no spontaneous evacuation through Stenson's duct, the parotid-masseteric fascia covering the gland becomes involved in the suppurative and necrotic process, which burrowing through adjacent structures may reach the mediastinum. A retro-pharyngeal abscess may form. The mortality of this type is about 30 per cent, according to Wagner<sup>12</sup>.

Gangrenous parotitis is very rare and usually fatal. There is higher leucocytosis and stronger systemic reaction. Phlebitis and thrombosis occur early with ulceration of the vessels and hemorrhage, death usually occurs from pyemia or septicemia. Fisher reports a case of this kind following operation for acute gangrenous appendicitis with perforation and abscess formation. This patient had already had a parotitis. The whole parotid gland was necrosed and was removed with wide drainage and was followed by recovery.

No matter whether post-operative parotitis be considered as a direct oral infection of the parotid gland, or as a hematogenous infection, when the condition is established, it should not be permitted to evolve upon the chance of spontaneous subsidence. Morestin<sup>13</sup> recommended constant expression of pus from the whole gland. Fisher advocated early operation with free incision and open drainage, as gangrene is liable to rapidly develop in suppurative cases. The greater the involvement, the greater is the necessity for wide exposure. When the suppuration has extended into the peri-parotid tissues, the gland should be exposed by a long incision extending from the zygoma down along the sternocleido-mastoid, with a curvilinear incision from the mastoid joining the first incision below the jaw. Injury to the facial nerve, and other important structures of the neck should be avoided.

As a prophylactic measure, Collins<sup>1</sup> advocates pre-operative oral hygiene, post-operative administration of salt solution by hypodermoclysis, according to Canaval's method, the needles being put in axillae and left there, and the sucking of lemon candy to excite parotid secretion. If parotitis develops and persists for four days, Collins recommends incision and puncturing of the gland in three or four places.

It is important that surgical patients be given ample quantities of fluids before or during and after operation.

Morphine and atropine given previous to the administration of ether, should be

avoided as a prophylactic measure against parotitis. These drugs produce a dryness of the mouth which may predispose the patient to direct infection of the gland through Stenson's duct. There is an advantage in having patients chew paraffine wax immediately following anesthesia continuing until water and food are taken.

When it is evident that a parotitis exists and the swelling does not subside within a few hours, as it should do in simple cases, a skin incision is made under local anesthesia and the gland punctured. When pus is encountered a pair of forceps is introduced into the substance of the gland and by opening the forceps the outlet of the abscess is amply stretched. The facial nerve should be kept in mind and the utmost care used to avoid its injury. Often lobular abscesses occur and require multiple incisions.

#### CONCLUSION

Post-operative parotitis occurs more frequently following abdominal operation, but may follow operations upon any part of the body.

It may be either a local manifestation of a general infection, metastatic, or a local infection extending from the mouth through Stenson's duct to the gland.

Important elements in the prophylaxis of post-operative parotid gland infection are the routine employment of careful pre-operative preparation of patients; the avoidance of the use of morphine and atropine previous to anesthesia; care in the use of retractors, avoiding the handling of viscera in so far as is possible, operating with the constant thought for unnecessary trauma. Add to story on surgical mumps.

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Ephredine is an ancient Chinese drug recently discovered, that is used to raise blood-pressure and as an anaesthetic.

## UNIVERSITY OF KANSAS CLINICS

## Clinic of H. R. Wahl, M.D.

## PERFORATED DUODENAL ULCER, SUB-PHRENIC ABSCESS, ENCYSTED PLEURISY

This patient, a man aged 55, entered the hospital about ten days before his death, complaining of pain and cramps in the upper abdomen with inability to eat. His past history shows nothing of interest except that he is a chronic alcoholic, and has had frequent "bilious" attacks, associated with pain in the region of the liver, constipation, nausea, and a lack of appetite.

His present illness began five weeks before entering the hospital with attacks of alternate diarrhea and constipation, and what he called "acute indigestion." One week later he was suddenly seized with a severe cramp-like pain in the mid abdomen. These pains were not continuous but came off and on for eight days. Since that time the cramp-like pains have been intermittent, and are much worse following a meal. They usually occur a few minutes after eating. The cramp-like pains seem to be in the upper right quadrant, and in the region of the appendix. A few days before entering the hospital he had severe pains extending into the groin on the right side and also involving the right side up to the right scapula. There has also been some numbness of the smaller fingers of his right hand. He has lost 18 pounds in weight in the past two months. The occupation of the patient is that of a painter and paper-hanger.

The physical examination shows a white male, about 60 years of age, lying in bed with occasional colicky attacks. His teeth are in very bad shape and most of them are missing. Some muscle spasm noted over the right side. Tenderness in the epigastrium, and in the upper and lower right quadrants. There is a triangular area of dullness at the left base. Graeco positive.

The laboratory examination shows an anemia. 3,610,000 reds. Hemoglobin 66 per cent. White count on admission 11,050, raising to 21,200 five days later. The blood chemical examination is negative. Right chest was aspirated three days after entering hospital, and 250 cc. of a turbid straw-colored serous fluid removed. No bacteria were found in this fluid.

The x-ray examination was as follows: "Adhesions noted over the base of the right lung, with obliteration of outer diaphragmatic angle. Right bronchus retracted toward the right lung. The pleura on the right side is thickened. The stomach and duodenum show nothing unusual. The chest conditions

suggest a malignancy. A small pneumothorax on right side was also suggested."

At one time the patient's condition was diagnosed as lead poisoning. There was a slight elevation of temperature each day to 100, and the pulse was running a rather rapid course. Three or four days before death the temperature was high and of a septic type. Following the aspiration of 250 cc. of fluid from the chest the patient began expectorating a very foul offensive sputum that looked something like pus. He then developed an acute bronchitis. For a day or two following this he was somewhat better. Bronchopneumonia was then suspected shortly before his death.

The clinical diagnosis was thought by some to be lead poisoning. Then pleural adhesions with a lung abscess was considered. Another possibility was that of an acute perforation of the stomach with an extension into the liver and to the right chest. The cause of the perforation was thought to be of malignant origin.

At autopsy we find an emaciated white man whose upper right quadrant seemed swollen and somewhat rigid. On opening the abdominal cavity we find numerous adhesions around the gall bladder, the under surface of the liver and over the duodenum and transverse colon. Elsewhere the abdominal cavity showed nothing abnormal. The diaphragm, however, seemed unusually adherent all over the convex surface of the liver. In attempting to release the liver from the adhesions on the diaphragm a small amount of thick creamy pus wells out from the under surface of the liver, suggesting the presence of either a subphrenic or a perinephritic abscess. In order not to disturb the relationship of the tissues let us now leave the abdominal cavity for the present and open the thoracic cavity, and work down from above.

On removing the sternum we find about 200 cc. of clear straw-colored fluid in the left pleural cavity, but no adhesions. The upper part of the right pleural cavity was empty. A few adhesions were present along the posterior part of the apex. Over the lower anterior surface the lung is covered with a fresh fibrinous exudate, and its base is firmly adherent to the diaphragm. Toward the base there is a soft area 5 to 6 cm. in diameter that seems to contain fluid and suggests an abscess. We shall now break the adhesions along the parietal wall. This is easily done, but note what we have gotten into—a large cavity filled with a serous purulent exudate, containing some strands of fibrin. This fluid amounts to approxi-



mately 700 cc. It has pushed the middle lobe up and the lower lobe anteriorly and downward against the diaphragm. A thick layer of fibrin covers the pleural surfaces in this region. We shall dip off all this turbid fluid and then trip the compressed lung tissue from the surface of the diaphragm. As we do this more pus wells out, apparently from the surface of the diaphragm. The lung can be separated from the diaphragm, in which three distinct perforations, 4 to 6 mm. in diameter, may be seen. Through these the pus wells out on slight pressure on the liver. We shall now slit open the diaphragm, and, as we do so, we enter a large cavity filled with thick yellowish-white pus, and lined by a thick layer of fibrin, 3 to 4 mm. in thickness, covering the liver capsule below, and the diaphragm above. We are dealing here with a typical subphrenic abscess.

The next move on our part is to seek the source of this abscess. The most common cause of a subphrenic abscess is a perforation either in the stomach or the duodenum. Hence, we must not overlook these two regions in seeking for the primary source, but before we do so, let us examine the base of the lungs. Opposite the perforations the lung tissue is covered with fibrin, which is softened and in one place a sinus leads to a ragged lung abscess, 4 to 5 cm. in diameter. The lung tissue in the upper lobe and along the anterior edge shows very marked emphysematous layers.

We shall now look over the right kidney and see if the source of the subphrenic abscess could be in this region. Upon removal of the capsule of the kidney no acute suppurative process can be seen, the abscess extending only to the outer and upper portion of the perirenal fatty capsule. The kidney appears enlarged and swollen and shows a few small retention cysts. Otherwise there is nothing very abnormal.

Let us now examine the gall bladder. It is enclosed with massive adhesions which can be readily broken down, loosening the duodenum, which is partly bound to it. The examination of the appendix shows nothing abnormal. The foramen of Winslow is closed with adhesions. The most likely possibility is a ruptured gastric or duodenal ulcer. We feel nothing in the stomach. We do feel, however, a suspicious mass in the duodenum close to the pylorus, and in the right entrance and posterior part. Let us open the duodenum. As we do so we see the source of the trouble. There are two clean punched out deep ulcers on the posterior wall, one 11 mm. and the other

one 15 mm. in diameter, situated from 1 to 2 cm. from the pyloric ring. One of these ulcers seems to have perforated all the way through the wall, and is covered with nothing but loose adhesions, and the base is partly formed by the head of the pancreas. The other ulcer is a little smaller and seems to have a part of the muscle and serosa as a base. No distinct connection between these ulcers and the abscess, other than through adhesions, can be seen. The nearest portion of the abscess is about 2 cm. from the base of these ulcers.

The liver seems to be swollen and the cut section gives the appearance of cloudy swelling. None of the other organs show anything of special significance except in the lungs where there seems to be some evidence of a bronchopneumonic consolidation in the right lower lobe.

The autopsy findings clearly explain the clinical picture. The patient evidently had a perforation of one of the duodenal ulcers when he had the sudden acute pains some weeks before he entered the hospital. The perforation allowed the material to pass up behind the liver and between the diaphragm and the liver. Inasmuch as there are relatively few bacteria in the diaphragm such material does not set up a very violent inflammatory reaction. The character of the wall of the diaphragmatic abscess shows that the process must have been present for several weeks, there being considerable organization of the exudate. The condition in the pleura was due to a subacute rather than to an acute inflammatory process. One of the unusual features is the presence of so much pathology in the right chest without more definite clinical symptoms.

The microscopic examination of the walls of the ulcers showed relatively little inflammatory reaction. This is quite common in this type of ulcer. Most ulcers in the duodenum arise in this region. It is this portion of the duodenum which is exposed to the hydrochloric acid of the stomach. That may account for the formation of ulcers. This is not true of the lower portion of the duodenum where the contents are alkaline. Such a place is not likely to become the seat of ulcers. It is rather unusual for ulcers in this location to be multiple as in this case. Duodenal ulcers are very apt to perforate, particularly on the anterior surface. When they do so they produce a general peritonitis, and usually death. Less frequently they perforate on the posterior surface and set up a localized abscess, frequently of a subphrenic location. The pres-

ence of this subphrenic abscess produced a certain amount of necrosis in the diaphragm, leading to its perforation and its extension into the right pleural cavity, producing an infection of this region, with the formation of an encysted pleurisy, and an abscess of the lungs.

The fact that the pleurisy was of an encysted character accounts for the lack of a diagnosis of fluid until the aspirating needle showed the presence of clear serous fluid. This needle evidently penetrated the serous fluid exudate that had been walled off. The presence of a bronchopneumonic condition of the lungs is evidence of the lowered resistance of the patient, which allowed the infectious process to extend throughout the lung tissue.

It is interesting to note that the temperature was considerably elevated following the aspiration for two days, and of a distinct septic type. This suggests suppuration in the lungs. The lung lesion seemed to be, at autopsy, of a more recent origin than the subphrenic abscess.

This case illustrates the most common complication of a subphrenic abscess, and that is pleurisy. The extension of the infection through the pleura may occur through the blood stream, through the lymphatics, or by direct contiguity. In this case the infection evidently spread directly through the perforation. It is rather surprising that in this case no air or gas was found. These two substances are frequently found in lesions of this character.

It is very difficult to distinguish an encysted pleurisy from a subphrenic abscess. Sometimes this may be done by noting the behavior of the aspirating needle as it penetrates the diaphragm. If the needle is in a subdiaphragmatic region it moves more with the respiration and the pus flows more on inspiration. If the needle is in the pleural cavity and does not stick in the diaphragm the respiratory movements have no effect upon it. However, this difference is not always helpful.

The mortality in subphrenic abscesses is relatively high, being about 56 per cent in the unoperated cases. In those cases that are operated within three weeks after the development of the abscess the mortality is somewhat less, being approximately 35 per cent. The diagnosis is thus of some importance, because the earlier such an ab-

scess is treated the better the chance for the patient's recovery.

### Clinic of Dr. A. L. Skoog

Department of Neurology

#### A CASE OF ACUTE INFECTIOUS MYELITIS

Today it is proposed to discuss some quite interesting and instructive features of a disease exhibited in the patient before you. The subject might have been made to cover a large territory in the field of neurology. However, the title makes definite restrictions.

Case 1. Mr. H. R., 36 years old, single, colored and a janitor, was referred to the neurological service at the Bell Memorial Hospital by Dr. E. J. Billick on March 1, 1926. His chief complaint at that time being a partial paralysis of both arms and legs, weakness, and marked constipation with pains in lower abdomen.

The patient states that he has had pneumonia, pleurisy, occasional headaches, some fainting spells and gonorrhoea several times. He denies syphilis. His family history was negative.

His present illness is of nine days standing, having been exposed to wet and cold while shoveling snow twelve days ago. He complained of no pain or disturbed sensation and was able to walk until eight days ago. There had been no fever as far as the patient knew, and none recorded by the family doctor. Early in the course one night, he was awakened, feeling cold and chilly, one chill lasting 30 minutes.

Our original examination showed a patient in a fair state of nutrition. Eyes were somewhat prominent and lacked the normal convergence, otherwise negative. There was definite motor weakness in the muscles of the face, eye lids and those employed for mastication and deglutition. Ears, nose, and mouth were negative. The tongue protruded mesially. The tonsils and pharynx were inflamed. The chest was normal, heart rate 104 per minute. The blood pressure and cardiac functions were normal.

Epitrochlear and inguinal glands were enlarged. The spine was tender throughout to percussion. The abdomen revealed tenderness in the lower quadrant. The upper extremities could be moved but showed much weakness and ataxia. Movements of the fingers and hands were definitely impaired. The lower extremities were almost completely paralyzed, but there was some use of the quadriceps femoris. A certain degree of spasticity was present in the muscles involved. The Achilles reflexes were absent.



The left patellar reflex was lost and right was quite weak. Babinski and Oppenheim were negative. Deep sensation was not disturbed. There was a hyperesthesia along the entire spine and over the skin of the legs.

Repeated urine examinations showed a persistent trace of albumen, otherwise quite normal. The blood count gave a leucocytosis of 18,000 to 15,000.

The first spinal fluid examination showed a pressure of 14 mm. (Hg.) which was reduced to 8 mm. by removing 12 cc. of clear spinal fluid. Jugular compression would increase the fluid pressure to 40 mm. There was a lymphocyte count of 12, Pandy positive, Wassermann negative, goldsol 001223321. A later spinal fluid examination showed a cell count of 4, and the last exhibited no cells and a normal fluid pressure.

Treatment has consisted of three spinal punctures, urotropin by mouth and intravenously, salicylates, enemas, laxatives and rest.

The patient showed a gradual improvement after the first week in the hospital. At the end of 14 days he was able to move his right leg. He could feed himself and move his left leg on the 15th day. Now his bowels are acting normally and he continues to show much motor improvement in the arms and legs. He can sit up in a chair, stand on his feet, and take a few steps supported by a cane. He is almost ready to be discharged from the hospital after being here about five weeks.

The most important medical problem in the original work on this case, was that of an accurate diagnosis. Now almost four weeks since entering the hospital, the patient presents a decidedly different appearance. The improvement has been marked, especially during the past ten days. The course of the case verifies our original diagnosis, which presented some difficulties.

Above all, in our differential considerations, it was necessary to rule out syphilis of the spinal cord. Against syphilis it may be argued that the onset and the course were too rapid. A luetic myelitis is usually slower in its progress. There were no skin, bone, or visceral signs of a spirochaetal infection. A diagnosis of acute poliomyelitis versus a diffuse and disseminated myelitis is the biggest diagnostic problem to settle in the patient before you. The slight blood leucocytosis, the mild increase of lymphocytes in the spinal fluid and a positive Pandy is a usual picture in acute poliomyelitis. The mild spasticity and the distribution of motor manifestations suggest rather

a myelitis and a particular pathological involvement of the lateral columns of the spinal cord. The mode of onset with a definite history of exposure and chilling suggests the same disease. The season of the year is decidedly against infantile paralysis, but a case may be encountered in any month. Tuberculosis, a compression from without, tumor of the cord, abscess and trauma need not be considered seriously.

Our diagnosis, without hesitation, is an infectious myelitis. Possibly the qualifications transverse or disseminated may be used. However, clearly, the disease is not limited to the spinal cord. Quite certainly there is a mild inflammatory involvement of the leptomeninges. Possibly there is some extension to the roots. The pains of which the patient has complained, may be attributed to a radiculitis or an irritation to the roots from the mild accompanying meningitis. But most important of all is an involvement extending above the first cervical segment of the cord. The inflammatory process extends very definitely to the medulla and pons. The moderate paralytic facies of this patient was quite striking during the first two weeks in the hospital. He even had some difficulty in mastication and deglutition. Therefore, we would say that the pathways and possibly nuclear centers of the eleventh, tenth, ninth, seventh and fifth cranial nerves were moderately involved in the pathological process.

At this point it will not be out of place to consider briefly the entity of myelitis. This term has been used in a rather broad sense in out literature and text books. Under the caption have been considered the changes in the spinal cord due to vascular disease or accident, softenings of the cord resulting from compressions from without or within, hemorrhages, trauma, syphilis, tuberculosis, and even chronic degenerative diseases. Thus in cases similar to the one we are presenting today, some qualifying terms should be used to indicate the nature of the disease and the acuteness. I believe that acute infectious myelitis which may be more or less localized, but more frequently diffused, is a definite entity. Undoubtedly it has been neglected and some of the cases have been diagnosed as other troubles.

A great many diagnostic signs may be present. The varying manifestations will depend upon the nature of the disease, localization and the degree of pathology. A clear conception of the anatomy and physiology of the spinal cord, meninges and roots is essential. Motor, sensory, reflex, trophic and visceral manifestations referable to the en-

tire body, should be carefully studied in any suspected case.

The prognosis in this case and similar ones is quite important, both for the patient and his physician. If you read a number of text books giving much consideration to myelitis, you may be left with a cheerless outlook for the disease. If this malady is recognized very early and proper careful treatment instituted at once, the prognosis is not so hopeless as pictured frequently. In later stages when too much destruction of the parenchymatous tissues of the spinal cord have taken place, the prospect is usually hopeless. Milder inflammatory processes of the spinal cord may repair with little or even no cicatricial residuals, as are seen in other tissues. But when neurones once are destroyed, no subsequent function is possible. Thus if the destruction is too extensive, death is inevitable. This may take place in a few weeks or a few months. Most frequently the exitus is the result of complications such as a cystitis or infectious nephritis, blood stream infections and exhaustion.

In view of the fact that we do not consider all of these cases hopeless, our attention now may be turned profitably toward the treatment. In the patient before us, you will recall that he had been ill about one week before entering the hospital, that he showed no improvement during the first week of treatment here and possibly becoming slightly worse. However, at the end of the second week, a slight improvement was noticed. It is necessary to consider in this patient whether the improvement resulted from a natural immunity established, or any specific therapy. The possibility of self immunity established in the patient is appreciated. Therefore, we should do everything in our power to promote this state in similar cases.

I would mention rest as being of prime importance. It is valuable in every way to combat this disease. This means reducing physical and neural labors to a minimum. The patient should be surrounded with all the comforts possible. Allow the least visiting possible. Proper suggestive therapeutics is of some value. Especially should he be guarded against the possibility of bed sores. Bony prominences should be watched carefully and protected in every way possible. Clean smooth dry bed clothing constantly are indicated. An air or water mattress when bed sores are suspected is quite valuable. These cases should be fed generously. Especially are large quantities of

liquids desired. This man during the first two weeks in the hospital was entirely incapacitated as far as feeding himself was concerned. Today he can help himself in that respect.

In the way of medication I would say that there is no clean cut specific therapy for this type of a disease. I thoroughly believe that some infectious organism was originally the cause of the trouble in this case. Its source was not discovered. However, we strongly suspect some type of a streptococcus. While serums have been tried, they have not been proven definitely of much value. During the first week the patient before you was placed on large doses of salicylates, yet he did not make any improvement. At the beginning of the second week in the hospital, daily intravenous treatments of hexamethylenamine, 2 gms. to the dose, were begun. Some of this same preparation was given by mouth at the same time. An improvement was noticed in a few days following this change in the treatment. After ten days of the new treatment, the improvement was so striking that my intern, Dr. Newton, remarked that "I am sold to this form of treatment in such cases."

This patient now has progressed to a stage where he is able to take a few steps, and soon will be walking with a cane. Within another week I anticipate that he will be discharged from the hospital. He will be placed on courses of small doses of sodium iodide alternating with some kind of a strychnia tonic preparation.

Foot Note. July 1, 1926: A brief reply from the family physician, indicates that the patient about whom the above clinical report concerns, has made a complete recovery. He has no remaining sequelae or complications as far as the doctor can determine. He is able now to do his customary manual labor.

— R —

The conversion of light into electricity has been accomplished by Dr. Coblenz, Chief of the Radiometry Section of the Bureau of Standards. When two pieces of molybdenite are connected by wires with a galvanometer and exposed to sunlight the needle of the galvanometer is deflected. The current disappears as soon as the light is obscured. He says: "the phenomenon appears to be a direct transformation of the thermal radiation into an electric current." If sunlight can be transformed into electricity the problem of heat and power for the future is solved.



# THE JOURNAL

*of The*

## Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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### PATERNALISM

Paternalism is one of the greatest blessings conferred by modern civilization upon the human race, or it is the greatest curse a misguided people can inflict upon its future generations, according to one's view point.

The activating element in the development of paternalism lies in our inherent instinct for brotherly love, or perhaps the paternal prerogatives of the individual have assumed the importance of a duty in the masses. Each individual has an urge to regulate or control the lives of his relatives, friends and neighbors, and a republican form of government is the massed expression of the sentiments of its individual citizens.

Other influences too, based upon the same inherent instincts however, have had more influence in the development of paternalistic tendencies in our governmental affairs. The development of these influences may be described perhaps in this way: An occasional man who had become unusually wealthy, acquired an exaggerated estimate of the accuracy of his judgment and in his egotism assumed an obligation to confer its benefits upon the rest of the world. An occasional woman who had more leisure than was good

for her and more money than the necessities or luxuries of life required, whose maternal instincts were over developed or in the natural course of events unsatisfied felt an urge to extend a motherly care over all those she imagined were less fortunate or less gifted than herself.

The self satisfaction occasioned by these endeavors and the social status of the participants popularized the idea and brought about many accessions to the number of those engaged in this phase of philanthropy. With an increase in numbers, the competition for leadership led to the formation of groups, by which the responsibility was divided, the labor lessened and the efficiency increased. The multiplicity of groups soon necessitated the formation of larger organizations and ultimately to specialization, so that now we have national associations for the prevention of this, American societies for the control of that, associations for the relief of these, for the protection of those, societies for the investigation of certain social conditions, societies for the promotion of special plans for betterment, almost endless in their number and in the variety of purposes.

Some of these organizations have accomplished a great deal for the benefit of the people, some of them seem to believe that the world moves because of their existence. Some of them are regularly incorporated and have large endowments and fixed incomes of considerable size, all of them have more or less influence in public affairs. It is largely due to the influence of such organizations as these that some of our government's activities have assumed a tendency toward paternalism. It has been said that one such organization with a thousand members had more influence with our congressmen than ten thousand unattached individuals. If this is true, it is no doubt because of the more effectiveness of organized effort.

At any rate some of the more recent enactments of Congress and some of those now proposed are regarded as distinctly paternalistic. The word paternalism, has a menacing sound to the average American citizen. Just where the government control of its citizens becomes paternalism is rather

indefinitely determined. One of the standard dictionaries defined the term as "a relation, principle or practice of care or control, as of the governed by a government, suggestive of that exercised by a father." There is always this distinction between paternalism and the control of a child by its father—there is a time limit to the latter. As soon as the child has reached its majority it passes from under its father's control but government paternalism when once established has no time limitation. Advice may be accepted or ignored, assistance may be accepted or rejected, protection may be appreciated or not, restriction and coercion may be tolerated by the child, but resented and resisted by the man—if he has in his makeup the elements of American manhood.

We may say that paternalism may be a blessing to the race so long as it is advisory, educative, protective, so long as it promotes happiness and contentment, encourages confidence and self reliance and when it stimulates industry and independence; but, when it becomes restrictive and coercive, when it intrudes upon the personal privileges of its citizens, when it interferes in their most intimate personal relations, when it destroys initiative, weakens self reliance, discourages independence, when it perpetuates a subjugated childhood instead of developing a liberated manhood, it is a curse to any race or nation.

#### FACTS ARE BEST

The American Society for the Control of Cancer is now over twelve years old. It seems to have a fairly complete organization, and with an endowment that yields a regular income, it should be a factor of considerable importance in the ultimate solution of the cancer problem. "The total expenditures of the Society for the year 1925 were \$56,975.04. As a part of its activities it publishes monthly a pamphlet, "Campaign Notes" which is devoted mostly to reports of the activities of the Society, but occasionally publishes articles for the general reader on the subject of cancer. The July number, for instance, contains an article entitled, "The Changing View of Can-

cer," by the Managing Editor of the Society, George A. Soper, Ph. D.

In this article the author has apparently overestimated the advances made in our knowledge of cancer during the past twenty-five years. That is really a short period in medicine and there are many in the profession now whose memories cover a period much greater than that who will challenge the accuracy of some of his statements. For instance he says: "Twenty-five years ago, it was not known that cancer affected any but human beings, and human beings living a civilized life. Today it is known that cancer occurs among all kinds of people. There is no race or age or social status or country or habit of life which affords protection from it. Cancer afflicts animals and it affects plants. Curiously enough, each species has forms which are peculiar to it. Thus, cancers which occur in mice do not occur in rats; what is more they cannot be produced in them. This "species specificity," as it is called, is so distinct that in experimenting upon cancer in chickens certain kinds of chickens have to be used in dealing with certain kinds of cancer."

"Twenty-five years ago, it was not known whether a cancer could be transferred from one animal to another by inoculation or otherwise. Today, one of the most interesting and useful methods of laboratory research consists in transplanting cancerous growths from one animal to another in order to discover by the method of analogy how malignant tissues behave in human beings. For example, twenty-five years ago it was not known how it was that cancer spread from one part of the body to another by metastasis. Today, largely through animal experimentation, it is recognized that minute particles of the cancerous growth are carried by the lymphatic system, and sometimes by the blood, from the seat of the original cancer to some other place, where a new focus of growth is presently set up. The practical application of this particular piece of knowledge has been beneficent. When cancer of the breast occurs, for example, the cancer is not only removed from the breast, but in what is known as the radical operation the



lymph-nodes in the hollow of the arm are also removed, for these nodes are like filters on the route of passage of cancerous material from the breast to other regions and may give rise to cancers at some future date. \* \* \* Twenty-five years ago, there was no such recognition of the differences in the microscopic structure of tumors as today."

The current medical literature of thirty years ago contained many contributions from cancer students and many reports of researches that were being conducted in the transmission of cancer; and there was much discussion concerning the "species specificity" referred to. In the Archives for experimental Pathologie and Pharmacie, Leipzig, Sept. 1894, and in the British Medical Journal, Sept. 29, 1894, H. Moreau reported some successful experiments in the inoculation of cancer, using for the purpose white mice.

At the Eleventh International Congress, a report of which was published in *Le Bulletin Medical*, Paris, April 25, 1894, Pio Foa, of Turin, opened the discussion on cancer and in the course of his remarks referred to "the proof that cancer is transmissible to animals of the same species by auto-inoculation, accidental inoculation by the surgeon's knife and experimental inoculation." Trasbot, of Alford, "pointed to the fact that dogs are particularly disposed to cancer."

At the International Congress of Hygiene and Demography, Budapest, reported in the *British Medical Journal*, Sept. 22, 1894, Duplay, of Paris, expressed the belief that "recent experiments pointed strongly to the view that cancer in an individual of one species could not be communicated by inoculation to an individual of another species, and that within the same species cancer could be transmitted from one individual to another only under conditions which must be very exceptional and were not yet understood."

In *Journal de Medicine de Chirurgie et de Pharmacologie*, Bruxelles, Vol. 4, No. 6, 1894, Halstead, in an article on the surgical treatment of cancer of the breast, urges the

extensive removal of "parts adjacent to a cancerous breast. The suspected tissues should be removed in one piece lest the wound become infected by the division of tissues invaded by the disease or of lymphatic vessels containing cancer cells." His operation was described in detail and apparently was quite as extensive and complete as those of today.

In the *Medical Record*, New York, August 25, 1895, William T. Bull reported 118 cases of cancer of the breast, on 108 of these the complete operation was done.

In the *New York Medical Journal*, Dec. 9, 1893, J. McFadden Gaston, in a paper read before the Southern Surgical and Gynecological Association, expressed the opinion that "whenever a breast was the seat of a malignant tumor, whether wholly or partially involved, there should be no hesitation about removing the entire glandular structure."

A reference to Chapters XXI and XXII of "A Manual of General Pathology," by Joseph Frank Payne, M. D., F. R. C. P., published by Lea Brothers & Co., in 1888, will show that at that time the "difference in the microscopic structure of tumors" was recognized and very thoroughly described, and also that the manner in which secondary growths were produced was known.

The *American Journal of Medical Science*, January, 1894, contained an article by Adler of New York from which the following is quoted: "No constant or in any way specific organism has as yet been demonstrated beyond possibilities of doubt. At present no facts, histological or otherwise, compel the assumption of a parasitic origin of carcinoma, while there are very strong and valid arguments against such assumption. For many years to come the indefatigable efforts of numerous investigators will be required to throw light on this most obscure of diseases. A more intimate penetration into the mysteries of cell-structure and cell-life, both in health and disease; a closer study of the living tumor-tissues; an endeavor to clear up the, as yet, entirely obscure chemistry of neoplasms—on these lines, no doubt, advances in our knowledge will be made. Nor should the further study

of protozoa be neglected; but it should always be allied with coolest criticism, and never leave the terra firma of experiment and fact for the airy region of wild theorizing and speculation."

This sounds very much like it had been clipped from an article on cancer of very recent date.

The evident purpose of the article under discussion was to stress the importance of early diagnosis and early treatment of suspicious new growths. The purpose is commendable, but the method of approach is open to question.

It is doubtful if any considerable progress will be made, in the campaign for educating the public along medical lines by careless or inaccurate statements.

The people generally are unable to distinguish between opinions and facts, and those who have given much attention to the literature supplied them have been pretty generously fed up on opinions that are seemingly, too often really conflicting. Naturally they are becoming critical and if the medical profession is to retain the confidence of the people it should send out no literature and should sanction the distribution of no literature containing statements that will not stand the most thorough investigation. In fact there is enough known about cancer, if it be plainly told, to convince any one of the desirability for an early diagnosis.

The members of the medical profession today are seeking no credit for work accomplished by their predecessors nor is it necessary that their accomplishments or their efficiency be over told.

— R —

### CHIPS

A humorist is one whose funny bone is in his head.

Talking over a ray of light is the latest stunt.

Pulchritude may be developed by the inhalation of ionized air.

An infidel is one who does not believe as I do.

Partly hydrolyzed keratin is a sure cure for alopecia. A man in Altadena, California,

having used the preparation too freely had to shave twice a day to keep from stepping on his whiskers.

Fundamentalism in medicine the same as fundamentalism in religion is necessary to keep the world from running over itself.

Anticrotalin serum is the newly discovered antidote for rattlesnake bite and for hootch, also.

An alimeter is an instrument used by doctors in casting up their net profits from their practice.

The death rate of all four classes of people in the United States is reported to be 11.9 per 100,000 population. The death rate of physicians 17.22.

Rock, coal oil or petroleum is made by a germ in the rock, geologists tell us. The germ is given the euphonest name of "Froamiciifera." A serum made from these germs will work up the old doctor, lawyer or preacher, who has petrified, into lubricating oil to help grease the wheels of progress, and not be a dead loss as heretofore. Bless the "Froams."

A symposium on cancer has been announced by the American Society for the Control of Cancer, to be held in September at Lake Mohonk, New York. Eminent medical men from Europe are expected to take part in the program. Attractive as the program may appear it can be heard by those only, who are "definitely invited by written request to attend."

To encourage investigations of alimentary tract function, Dr. Frank Smithies, Chicago, has presented to the School of Medicine of the University of Illinois, bonds in amount sufficient to yield annually, in perpetuity, not less than \$100.00. This fund is known as "The William Beaumont Memorial Fund" and the income therefrom, as "The Annual Beaumont Memorial Award."

Arachidism, spider bite poisoning, is the subject of a paper by Ira Cohen in the Journal of the American Medical Association for June 19. There is probably only one poisonous spider in the United States and it is the *Lactrodectus Moxtaus*, variously known as the "black widow," "shoe button," "hour-glass" spider, etc. The cases present a history of a spider bite followed by excruciating pains in the legs and abdomen, extreme abdominal rigidity, high blood pressure, elevation of temperature and a polymorphonuclear leucocytosis. The treatment consists of large doses of opiates and the ap-



plication of heat. The injection of convalescent serum seems to be specific in its action.

The Award is to be made each year to the research or clinical investigator, who, in the judgment of a Faculty Committee, has contributed the most important work during the year, in the field designated.

The first Award will be made in 1927. Manuscripts covering investigations do not have to be entered specifically for the Award nor is it required that they be submitted to the Faculty Committee. The Award is to be granted by the Committee after it has considered carefully all investigations published during any year in periodicals throughout the United States. Thus, the Award is available to workers in any institution, and is not confined to members of either Faculty or Student body of the University of Illinois.

The usefulness of bismuth in the treatment of syphilis seems to be assured, but there is pressing need of dependable evidence as to the sort of compounds of the element that is most likely to prove useful. In a study sponsored by the Therapeutic Research Committee of the Council on Pharmacy and Chemistry, Cole, Farmer and Miskdjian have demonstrated anew that the administration of suspensions of finely divided metallic bismuth is inadvisable because such preparations remain unabsorbed for long periods. This warns against the danger of cumulative action of a toxic substance. The study did not bear out the contention of some writers that insoluble salts of bismuth must be injected twice weekly to obtain a gradual, even absorption of the metal. If bismuth salicylate and potassium bismuth tartrate are injected intragluteally once a week they are not likely to give rise to cumulative action, but patients should be observed closely. When suitable preparations are cautiously employed, undesirable complications can for the most part be avoided. Cole regards bismuth as a valuable drug in the treatment of syphilis, but he urges a conservative attitude until more evidence as to the precise effect of the drug is available. (Jour. A. M. A., May 1, '26.)

There is a rational basis for the administration of oxygen in certain conditions, but it does not consist in the exhibition of a few whiffs of the gas through a funnel held in front of a patient's face. Ordinarily, the inspired air contains approximately 21 per cent of oxygen. It requires a decided increment of the latter in the air intake to

produce effective gains by diffusion through the lungs into the pulmonary capillaries. To be of therapeutic potency, oxygen should be administered at an optimal concentration, which has lately been proposed at 40 per cent of the inspired air. Apparatus has been developed which insures the inspiration of the high concentrations of oxygen which is desired. (Jour. A. M. A., May 8, '26.)

The United States Patent Office is apparently unaware that there is such a thing as modern medical knowledge. Patents have been issued for bizarre products and devices of a medical or medicinal nature. These include Perkins tractors, Sanche's Oxygonor, the tape worm trap of Myers, the "consumption cure" of Serghison and several others. A patent was issued in March, 1921, to Mary McGuire Wilson for the "Process of and Material for Reducing Fatty Tissue." According to the patent specifications, the Wilson formula for reducing weight is alum, 12 ounces; camphor, 2 ounces; alcohol, 12 fluid ounces; and witch hazel, 32 fluid ounces. This mixture—which the Patent Office considers a new and useful invention—is to be applied to the skin of the "stylish stout" immediately following a hot tub. The stuff is then "whipped or spanked with the fingers to drive the solution into the pores." (J.A.M. A., May 29, '26.)

It is probable that gonococcus vaccine in some form or other is still used by physicians in the treatment of gonorrhea and its complications. There is no question, however, that this practice is far less extensive than formerly. The use of gonococcus vaccine for curative treatment appears to be sharing in the decline from popular favor of bacterial vaccines in general. Gonococcus serum and gonococcus vaccine were omitted from New and Nonofficial Remedies because the Council on Pharmacy and Chemistry concluded that there was no evidence to show that these preparations had therapeutic value. (J.A.M., April 3, '26.)

For centuries Chinese physicians have used kaolin in fevers and intestinal disorders, including cholera. Recent experiments seem to confirm the scientific basis of its use. Work in vitro has demonstrated that it is not an antiseptic agent but that in fluid mediums, if kept in motion, kaolin will carry down with it large numbers of bacteria. More than this, it combines with the toxic products of cholera, of the typhoid dysentery group of organisms, and, apparently, with putrefactive and proteolytic bac-

teria. Recent workers have successfully employed kaolin in Asiatic cholera, bacillary dysentery, chronic ulcerative colitis and enteritis. (J.A.M.A., April 17, '26.)

Recent studies of salivary digestion show that 76 per cent of the starch of mashed potatoes and 59 per cent of the starch of bread was converted to maltose, an additional per cent being changed to dextrin. If food is properly masticated and starch digestion allowed to proceed fifteen minutes or so in the stomach, almost as much starch is broken down as when digestion can proceed for a long time. For this the high amylase content of saliva is responsible. The use of amylase preparations in medicine has lost its former vogue. With starch presented in readily digested form, there is little need for salivary digestants—that is, the responsibility for proper digestion of starch, is being transferred to the technique of the food factory and the kitchen instead of the purveyor of digestive ferments.—(Jour. A. M. A., April 24, '26.)

"The history of anemia treatment with drugs is indeed a tale to make the judicious grieve." On the whole, iron seems to enjoy the most constant favor by practicing physicians. The clinical control of the treatment of anemia is difficult and the number of variables almost infinity. As a result, widely differing views as to the efficiency of iron preparations have been recorded. Less than four years ago, Whipple wrote that among the potent factors exerting a positive influence of hemoglobin formation, stands first blood, meat and cooked liver, hemoglobin and butter fat. He found iron and arsenic in the common drug preparations inert under the conditions of his experiments. Williamson and Ets subsequently concluded that inorganic iron is absorbed and may be found in the liver and spleen, but is not converted into hemoglobin and that animals made anemic by bleeding did not recover more rapidly when inorganic iron is given. Williamson believes that the efficiency of food iron is pronounced. Recently, Barkan found that digestive ferments do not liberate iron from hemoglobin. This means that, if the pigment facilitates blood regeneration, it is not so much iron as the complexes with which it is associated that determines hemato-poietic efficacy.—(Jour. A. M. A., April 3, '26.)

The new Millikan Rays recently discovered are said to come from outer space and can penetrate a layer of lead six feet thick.

The wave lengths of these rays are 2,000 times shorter than those of x-rays.

Under a recent ruling parents or other relatives of a patient of a United States Veteran's Bureau Hospital will be provided accommodations in the hospital at the rate of one dollar a day. This privilege is also extended to relatives of officers and employees of the hospital.

### Comments

By THE PRODIGAL

Dean Rushby, in the New York Times, speaks encouraging words to the medical profession. By the way, he is Dean of Columbia University, and a staunch Presbyterian in religion. He says: "I think it is not generally known that both houses of the Tennessee legislature recently passed a statute providing that anyone who had been graduated from a high school should be licensed to practice medicine." And further it is said that had the Governor vetoed that measure it would have been passed over his veto, and that it was only the tactfulness of the President of the University of Tennessee that induced the Legislature to adopt a substitute. What that substitute is deponent saith not—but would like to know.

Dr. Ray Lyman Wilbur, President of Stanford University, speaking before the California Medical Association in the Hotel Oakland said, that stupidity and ignorance, and not bacteria, are the most pronounced foes of medicine. That when the world recognized that a disease germ could not be scared off by wearing a red shirt or by carrying a chestnut, buckeye or rabbit foot in the pocket, then will medical science be enabled to make greater strides in the eradication of preventable diseases." Culture and learning do not meet the requirements.

Biological facts taught in the common and high school in addition to such training in the colleges would eventually raise up a generation less superstitious and there would be less mob thinking and the whole mass would finally become leavened.

However the medical profession as a whole has been slow to act. Hesitating to improve its opportunities and take the offensive because of puritanic ethics. Dogmas of old religious faiths were never more rigidly adhered to than the rules of practice in medicine long outgrown.

The Dallas Meeting of the American Medical Association had some live wires in it as shown by the subjects of general in-



terest taken up and discussed at that meeting. They were vital, living, pressing subjects for the good of the human race at large and subjects that no other profession is so well prepared to fructify.

**Crime**—the medical profession can do more to limit and control crime than the law. Improve the race by eliminating and preventing defectives, imbeciles, morons and undesirables.

**Education**—teach the masses the cause of disease and thus do away with superstition, black cats, blood, tom toms, and incantations. Give lectures in common schools and in public on biology and urge its teaching. Begin with plant life and creep up to animal and finally to man if danger of successful opposition. Culture and education along general lines is not specific enough. It does not or has not driven the biologic facts home near enough, at any rate, to get the monkey idea reconciled.

The doctor is untrue to himself if he does not make himself an integer in the community in which he lives. He knows what is best to conserve and improve the health, and if health is the happiness for which all strive to get, of the community; and knowing he should study to act and get a move on himself or he will be a negligible quantity. Another reason why the medical profession has not occupied the position that its importance has entitled it to is oversensitiveness from a self consciousness of the limitation of human knowledge. But there are enough scientific medical facts known now to begin an offensive campaign.

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## KANSAS LABORATORY ASSOCIATION

### Testing for Biliary Substances

E. R. LEHNHERR

Department of Biochemistry, University of Kansas

Most of the tests for biliary constituents are based upon the presence of the pigment bilirubin. The salts occurring in such small amounts as to make detection difficult if not possible. The tests for the latter are not very sensitive nor specific, and as a result special precautions must be taken in order to distinguish small quantities.

These substances appear in the urine when there is an obstruction to the flow of bile into the intestines. The salts are present normally in blood. This would be expected because of their reabsorption

from the intestinal tract after being excreted into the intestine.

Hijmans van den Bergh has studied this problem a great deal and especially that type of cholemia associated with jaundice. A test that he has introduced seems to be one of the most accurate and sensitive of the few tests that can be on the blood for these substances. It is a modification of the well known diazo reaction and is performed by adding one-fourth volume of the "fresh reagent" to the clear liquid obtained by centrifuging the serum to which had been added two volumes of alcohol. A positive test is indicated by the appearance of a reddish color tinged with violet. The originator claims this test to be specific for bilirubin. (The reagent is prepared by adding 15 cc. concentrated hydrochloric acid and .75 cc. of .5 per cent sodium nitrate to 25 cc. of 1-1000 aqueous solution of sulphanilic acid).

Gmelins test may be applied by layering the serum above fuming nitric acid (obtained by adding a few small sticks of wood to ordinary nitric acid). A white ring of coagulated albumin is formed—and in addition a bluish green ring will be seen in the midst of this ring if there is any bilirubin present.

Urine containing these substances when shaken will cause a yellowish or greenish yellow foam to be formed whereas in normal urine there will be foam which is practically colorless. Urine containing bile always shows traces of nucleoprotein and serum albumin.

Gmelins test may be applied to the urine by layering the urine above fuming nitric acid and notnig the colored rings. A positive test is indicated by the presence of a green ring and not any other colored ring which may result from interfering substances. This test has proved to be successful and will result generally in a play of colored rings through violet, blue, red, and yellow. However, it must be remembered that the green ring is the characteristic color.

Smith's test is performed by layering 1 per cent alcoholic solution of iodine above the urine so that a distinct ring is formed at the junction of the two liquids. An emerald green ring will be formed in case there is a positive test. This procedure is not as sensitive as Gmelins—nor have we found it as satisfactory.

Nakayama's—This is a modification of the Huppert-Cole technique and we find it to be a very good improvement. It is performed by heating two cc. of the reagent

with the precipitate obtained by treating five cc. of urine with an equal amount of ten per cent barium chloride. A bluish green or brilliant green solution is obtained which changes to a red or violet on the addition of nitric acid. (Reagent is made by dissolving .4 gram of ferricchloride in 99 cc. alcohol and adding one cc. of concentrated hydrochloric acid.)

As mentioned before the tests for the detection of bile acids are not very dependable. The procedure generally used, and we find to be the most accurate, is known as Hay's "surface tension" test. This is made by sprinkling flowers of sulphur on the urine. Normally the sulphur will remain on the surface, but in the presence of bile salts will continue to trickle through the liquid until all have settled on the bottom. This test is based on the lowering of the surface tension by the acid and is not specific.

The results of other tests for bile acids depending on a color production have not been very successful in our laboratory due to interfering colors from other material. These tests have been supplanted almost entirely by Hay's surface tension test, which is the most practical of the different procedures.

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## SOCIETIES

### QUARTERLY MEETING OF THE GOLDEN BELT MEDICAL SOCIETY

The quarterly meeting of the Golden Belt Medical Society was held at Manhattan, July 8, 1926. Meeting was called to order by President R. R. Cave. The minutes of the previous meeting were read and approved. The scientific program was immediately started, the first number being a very interesting talk by Dr. Jabez N. Jackson, President of the A. M. A., of Kansas City, Missouri. His subject was "Physiology and Surgery." The subject was discussed by Drs. Maurey, McCallum, Karl Menninger, and Cave. The discussion was then closed by Dr. Jackson. Next was a paper on "Congenital Pyloric Stenosis," with report of a case by Dr. Benjamin B. Brunner, Wamego. Paper was discussed by Drs. Brethour, Maurey and Jackson. The discussion was closed by Dr. Brunner. Next was a talk on "Some Skin Lesions of Syphilis," illustrated with lantern slides by William B. Goddard of Topeka. The subject was discussed by Drs. Chambers, Sutton and Karl Menninger. The discussion was closed by Dr. Goddard.

A short business session was then called

during which the following men were elected to membership:

Dr. E. M. Martin, Clay Center; Dr. A. L. Lemon, Riley; Dr. G. A. Cassidy, Manhattan; Dr. Warren R. Morton, Green.

The president appointed a committee consisting of Dr. C. F. Menninger, Dr. J. D. Colt, Sr., and Dr. B. B. Brunner whose duty it is to make a list of the deceased members of the Golden Belt Medical Society, which list is to be kept by the secretary in the future and printed on the program of each annual meeting.

The committee on rearranging mailing list reported no progress, but promised to have list ready before the next meeting.

Bills to the amount of \$22.05 were allowed and ordered paid.

The proposition of the election of Secretary-Treasurer to fill the vacancy created by Dr. Carr immediately following the last meeting by his declining to serve in this capacity, was then brought up. Dr. O. R. Brittain of Salina was nominated and on suspension of the rules was unanimously elected.

An invitation from the Saline County Medical Society extended through Dr. Maurey to meet in Salina at the next quarterly meeting was unanimously accepted.

A motion to adjourn was carried.

A four course chicken dinner was enjoyed by the doctors and their wives during which they were entertained by a stringed orchestra. Following the dinner a male quartet sang several short selections.

J. D. COLT, Jr., Secretary Pro-Tem.

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## PERSONALS

Dr. M. O. Nyberg, formerly secretary of the State Board of Health, has located at Wichita, 601 Orpheum Building. Dr. Nyberg has recently completed a course at the Barnard Free Skin and Cancer Hospital in St. Louis and will confine his practice to dermatology and syphilis.

Dr. A. L. Bence, recently assistant to Dr. A. Steindler, head in Orthopedics at Iowa University, has located at Wichita where he expects to limit his practice to fractures and Orthopedic Surgery.

Dr. O. M. Raines, a graduate of Washington University School of Medicine, has recently located in Topeka.

Dr. B. F. Morgan, Clay Center, President-Elect of the Kansas Medical Society, and



Dr. W. F. Bowen of Topeka, are spending a few weeks in Northern Minnesota.

Dr. J. F. Hassig, Secretary of the Kansas Medical Society, has returned from an automobile tour of the Northwest.

Dr. W. D. Groff of Nortonville, Kansas, is spending his summer vacation in California.

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## UNIVERSITY OF KANSAS MEDICAL SCHOOL NOTES

Dr. Walter Carey, '23, is now resident in Gynecology at the Elizabeth Steele McGee Memorial Hospital in Pittsburgh, Pa. Dr. Carey visited the Medical School recently.

Dr. Edward Saylor, '25, has just finished a year's internship at Western Pennsylvania Hospital, at Pittsburgh, and is now resident Pathologist at the Bell Memorial Hospital.

Dr. Irwin S. Brown, who has been resident in Surgery at Fairview Park Hospital at Cleveland, was married a short time ago.

Dr. Herbert Rollow is located in Thayer, Kans., and is the proud father of a son, born recently.

Dr. James Weaver who has been at the Fifth Avenue Hospital in New York City, is now working in New York at Dr. Whitman's Orthopedic Hospital.

Dr. Melvin D. Hereford, '22, was a recent visitor at the Medical School. He is doing general practice in New York on Staten Island.

Dr. Russell Haden and Dr. T. G. Orr are enjoying their summer vacations in northern Minnesota.

Dr. and Mrs. Ralph H. Major announce the birth of a daughter, July 10th, whom they have named Margaret Virginia.

Dr. Fred Smith, '26, is now interning at Highland Park at Detroit. Before leaving for his appointment he was married.

Dr. Allen A. Olson, '25, was married to Miss Regina Garrison of Wichita, Kansas, and after August 1st, they will be at home in Wichita.

Dr. Clarence Kosar has recently been married to Miss Stella Harris.

Dr. Hiram Newton, '25, writes from Salt

Lake City that he is thinking of locating in that part of the country.

Dr. Tony Dillon has been appointed anesthetist on Surgical Staff at the Bell Memorial Hospital.

Dr. Robert M. Isenberger has returned from an extended vacation trip through Texas and will remain in Kansas City for the rest of the summer.

Dr. F. C. Helwig has been appointed Director of Pathology in the Children's Mercy Hospital of Kansas City, Mo.

Dr. Crozier Hart has gone to Raton, New Mexico, where he has taken a position as Camp Physician in a coal mining camp.

Dr. Ruth Ewing was a recent visitor at the Medical School. She is now practising gynecology and obstetrics in Brooklyn, N.Y.

Dr. and Mrs. E. T. Johnson announce the birth of a son, whom they have named Thomas Masterman.

Dr. LaVerne B. Spake attended a meeting of the American Triological Society in Montreal, Canada, last month.

Dr. E. J. Curran is contemplating a vacation trip to Northern Minnesota within the next week.

Dr. E. H. Hashinger read a paper on the Medical Treatment of Goitre at the Kansas City Clinical Society at Trinity Lutheran Hospital, July 12th.

Dr. Casford, '24, is now located at Ft. Smith, Arkansas.

Dr. Sam Ricker, '25, is practising at St. Charles, Iowa.

Dr. James Mott, '21, is now down at Rogers, Arkansas, and is practising with Dr. S. F. Glasscock.

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## DEATHS

Dr. George Parsons Bell, Ulysses, Kansas, died July 8, 1926, of heart trouble. He was located at Mullinville, Kansas, until February of this year when he moved to Ulysses. He was a graduate of the Bellvue Hospital Medical College, New York in 1886 and was a member of the Kansas Medical Society.

Dr. Edmund N. Daniels, Beloit, Kansas, died suddenly at his home in Beloit, July 21, 1926 of heart disease. He was a graduate of the University of Missouri Medical

School, Columbia, in 1900. He was a member of the Kansas Medical Society.

Dr. Frederick Otto Blaine, Copeland, Kansas, died in St. Anthony's Hospital at Dodge City, July 11, 1926, following a long illness. He was a graduate of the Medico-Chirurgical College in 1903. Dr. Blaine was fifty years of age.

Dr. Gerald Louis McGonigle, Frankfort, Kansas, died at his home June 27, 1926, of acute dilation of the heart. He graduated from the University Medical College, Kansas City, Missouri, in 1913.

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### The Legal Aspects of Psychiatry

At the annual meeting of the American Psychiatric Association which was held in New York last June, the committee on the Legal Aspects of Psychiatry made a report which attracted considerable attention. Space does not permit the reproduction of the report in full, but the following is a summary of the conclusions reached by the committee.

#### OFFICIAL STATEMENT OF POSITION

We believe—

(1) That the psychiatrist's chief concern is with the understanding and evaluating of the social and individual factors entering into failures in human life adaptations.

(2) That crime is a designation for one group of such adaptation failures, and hence falls definitely within the focus of psychiatry, not excluding, of course, certain other branches of science.

(3) That crime as well as other behavior and characterologic aberrancies can be scientifically studied, interpreted and controlled.

(4) That this study includes a consideration of the hereditary, physical, chemical, biological, social and psychological factors entering into the personality concerned throughout his life as well as (merely) in the specific "criminal" situation.

(5) That from a study of such data we are enabled in many cases to direct an attack upon one or more of the factors found to be active in a specific case to effect an alteration of the behavior in a propitious direction; while in other cases where this is not possible we are able in the light of past experience and discovered laws to foresee the probabilities to a degree sufficient to make possible proper provision against

subsequent (further) injuries to society. By the same experience and laws we are enabled in still other cases to detect and endeavor to prevent the development of potential criminality.

(6) That these studies can be made with proficiency only by those properly qualified, i. e., scientists who have made it their life interest and study to understand and treat behavior disorders.

(7) That this point of view requires certain radical changes in legal procedure and legislative enactment, insuring the following provisions:

(a) The court appointment, from a qualified list, of the psychiatrists testifying in regard to the mental status, mechanisms, or capabilities of a prisoner; with opportunity for thorough psychiatric examination using such aids as psychiatrists customarily use in practice, clinics, hospitals, etc.; with obligatory written reports, and remuneration from public funds.

(b) The elimination of the use of the hypothetical question and the terms "insane" and "insanity," "lunacy," etc.

(c) The exemption of the psychiatrist from the necessity of pronouncing upon intangible concepts of religious and legal tradition in which he has no interest, concern or experience, such as "responsibility," "punishment" and "justice."

(d) The development of machinery adequate to the requirements of the psychiatric point of view in criminal trials and hearings, including court clinics and psychiatrists, and ultimately a routine compulsory psychiatric examination of all offenders with latitude and authority in the recommendations made to the court as to the disposition and treatment of the prisoner.

(8) That this also entails certain radical changes in penal practice, including:

(a) The substitution of the idea of treatment, painful or otherwise, for the idea of retributive punishment.

(b) The release of prisoners upon parole or discharge only after complete and competent psychiatric examination with findings favorable for successful rehabilitation, to which end the desirability of resident psychiatrists in all penal institutions is obvious.

(c) The permanent legal detention of the incurably inadequate, incompetent, and antisocial, irrespective of the particular offense committed.



(d) The development of the assets of this permanently custodial group to the point of maximum usefulness within the prison milieu, industrializing those amenable to supervised employment, and applying their legitimate earnings to the reimbursement of the state for their care and maintenance, to the support of their dependent relatives, and to the reimbursement of the parties injured by their criminal activities.

(9) That effective preventive medicine in applicable in the field of psychiatry in the form of mental health conferences and examinations, child guidance clinics, mental hygiene clinics, lectures and literature, and similar institutions and efforts.

(10) That the protection outlined provide an efficient and scientific solution to the problems of crime, viz:

(a) The protection of society.

(b) The rehabilitation of the "criminal" if possible.

(c) His safe and useful disposition or detention if rehabilitation is impossible.

(d) The detection and the prevention or deflection of the development of criminality in those potentially predisposed.

Respectfully submitted,

ADLER	KIEB
BRIGGS	LOWREY
GLUECK	SALMON
HEALY	WILLIAMS
JELLIFFE	WHITE

MENNINGER

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## BOOKS

1925 Collected Papers of the Mayo Clinic and the Mayo Foundation, Rochester, Minnesota. Octavo of 1078 pages, 252 illustrations. Philadelphia and London: W. B. Saunders Company, 1926. Cloth, \$13.00 net.

In the foreword the committee on publications states that "The whole range of even the major subjects in medicine has not been and could not be covered by any group of writers in one year, but it is hoped that with the voluminous references to other writers, this volume will serve as a reflection of the progress of medical science during the year 1925." The papers are grouped according to subjects, making them more convenient for reference. It is needless to say that this is a very valuable and a very important addition to medical literature.

Blood Chemistry, colorimetric methods for the general practitioner by Willard J. Stone, M. D.

Second edition. Published by Paul B. Hoeber, Inc., New York City, N. Y. Price \$3.25.

This book will prove its value to any practitioner who cares to do any of this work or wants to know how it is done, or who is at all interested in the advance of clinical knowledge. The author has given clear and concise directions for the methods he has found most useful.

Abt's Pediatrics. By 150 specialists. Edited by Isaac A. Abt, M. D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. Set complete in eight octave volumes totaling 8000 pages with 1500 illustrations, and separate Index Volume free. Now ready—Volume VIII containing 1102 pages with 388 illustrations and General Index to Volumes I to VIII. Philadelphia and London: W. B. Saunders Company, 1926. Cloth, \$10.00 per volume. Sold by subscription.

The first 260 pages of this volume are devoted to the diseases of the skin and the next 150 pages to diseases of the ears and eyes. Then the author has inserted a very instructive article on hospitals for infants and children which is followed by a discussion of medicolegal topics. The next chapter deals with tumors of infancy and childhood to which 220 pages of the book are devoted. A chapter on encephalitis is followed by the final chapter on animal parasites which completes the most comprehensive work on pediatrics ever published. Each volume is carefully indexed and a separate general index volume is supplied with each set. This production by Dr. Abt is not only a work on pediatrics it is a library on medicine.

A Bipolar Theory of Living Processes by Geo. W. Crile, M. D. Edited by Amy F. Rowland. Published by the MacMillan Co., New York.

This recently published work of Dr. Chile's is a summary of the studies that have been conducted since 1898 in the development of the theory. Beginning with a search for the cause of surgical shock, the circulation and respiration were studied with negative results as were also the studies of blood chemistry. In his cytological studies, however, sufficient data were found upon which to base his final conclusions and develop the theory which is here presented. In the summary of these studies some very interesting findings are noted and those who read the book will find the theory well supported by convincing evidence.

The Medical Clinics of North America (Issued serially, one number every other month.) Volume IX, Number VI, (Chicago Number, May, 1926.) Octavo of 202 pages including complete Index to Volume IX, with 24 illustrations. Per Clinic year, July, 1925 to May, 1926. Paper. \$12.00; Cloth,

\$16.00 net. Philadelphia and London: W. B. Saunders Company.

Elliott and Nadler report a series of cases of diabetes mellitus and pulmonary tuberculosis. Strouse and Daly report a series of cases of diabetes and pregnancy. Pollock has a very instructive clinic in neurologic diagnosis. Ralph C. Howell has a paper in which every practitioner will be interested, on disability, damages, or disease. Bachman discusses the prevention of heart disease in children. Hess and Rosenblum have a clinic on gastro-intestinal hemorrhage in children. Jacob Meyer discusses acute yellow atrophy. Holmes' clinic on brain-stem lesions and subdural hemorrhage is very comprehensive and instructive.

Diathermy with special reference to pneumonia by Harry Eaton Stewart, M. D. Second edition, revised. Published by Paul B. Hoeber, Inc., New York City, N. Y. Price \$3.00.

In his second edition the author seems to be more fully convinced than before of the value of diathermy in the treatment of pneumonia. He says it has been almost universally admitted that symptomatic relief, at least, has been obtained by its proper use. The technique of pulmonary diathermy has been elaborated in this edition.

Edgar's Practice of Obstetrics, by J. Clifton Edgar, Emeritus Professor of Obstetrics in Cornell University Medical College, etc., revised by Norris W. Vaux, Clinical Professor of Obstetrics in the Jefferson Medical College, etc. Sixth edition. Published by P. Blakiston's Son & Co., Philadelphia. Price \$8.00.

Unessential and obsolete matter has been expunged. The subjects of prenatal care and hygiene and the follow-up care of maternity cases have been fully discussed. Particular stress is laid on labor, anesthetics and the method of administration. The toxemias are carefully presented. The complications of pregnancy and of labor and the puerperium have been considered in detail. The diagnosis of position and pelvimetry have been put on a concise working basis. Some illustration has been omitted and some new ones added.

Collected Papers by the Staff of the Henry Ford Hospital, first series 1915-1925. Published by Paul B. Hoeber, Inc., New York City, N. Y. Price \$8.00.

As might be expected this collection contains many of the important recent additions to medical literature. Many of them have been previously published elsewhere, but in bringing together these evidences of the contributions made to medical progress by the Henry Ford Hospital these papers are put into permanent form for future ref-

erence. The book is entitled to place in every medical library.

The Medical Clinics of North America (Issued serially, one number every other month.) Volume IX, Number V, (Chicago Number, March, 1926.) Octavo of 206 pages with 34 illustrations. Per Clinic year, July, 1925 to May, 1926. Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

In his clinic Mix presents a case of angina pectoris secondary to abdominal adhesions and a case of exophthalmic goiter of peculiar type. Hamburger reports cases of diseases of the coronary vessels, angina pectoris and acute indigestion. Tivnen gives a lecture on middle-ear and mastoid infections. Strauss reports a series of cases of hypertrophic congenital pyloric stenosis. Elliott reports a case of cerebral hemorrhage with intense hyperglycemia and glycosuria and a case of tuberculous lobar pneumonia. Priest reports some cases of hyperthyroidism simulating primary heart disease. Williamson's clinic is on purpura hemorrhagica and a case of lead encephalopathy mimicking an acute abdominal condition. Sonnenschein gives a demonstration of ear, nose and throat cases, and Carr describes digitalis delirium and uremia.

Materia Medica and Therapeutics by Reynold Webb Wilcox, M. D. Eleventh edition revised. Published by P. Blakiston's Son & Co., Philadelphia. Price \$5.00.

This work has been revised in accordance with the U. S. Pharmacopoeia X. The work is divided into two parts, *Materia Medica* and *Pharmacy and Pharmacology and Therapeutics*. The general classification is based on the grouping of the articles according to chemical or physiological divisions. In the part dealing with pharmacology and therapeutics the classification is based on the particular physiological system upon which the various agents principally act.

Diseases of the Skin, by Richard L. Sutton, M. D., Professor of Diseases of the Skin, University of Kansas School of Medicine. Sixth edition. Published by C. V. Mosby Co., St. Louis. Price \$12.00.

During the two years elapsed since the fifth edition was published there has been considerable alteration in the views of dermatologists and the author has revised the text to harmonize with the modern conception of cutaneous disorders. Considerable new matter has been added including a description of Fox-Fordyce disease, Mycotic paronychia, congenital ectodermolaplasia, cheilitis actinica chronica, ulcer vulvae actum, glossitis rhombica mediana, achromia parasitica, and the dermatologic aspect of rat-bite fever. Some new illustra-



tions have also been added. Neither the author nor his textbook need any introduction or comment here, it is sufficient to say that Dr. Sutton has published a new edition of his book on diseases of the skin.

Nursery Guide for mothers and children's nurses by Louis M. Sauer, M. D., Evanston Hospital. Second edition. Published by C. V. Mosby Co., St. Louis. Price \$2.00.

This is a very carefully prepared book of instructions that can safely be recommended to the nursing mother. It contains a great deal of information that the mother wants and ought to have, and that is reliable.

A Manual of Normal Physical Signs by Wyndham B. Blanton, M. D., Associate in Medicine, Medical College of Virginia. Published by C. V. Mosby Co., St. Louis. Price \$2.50.

The author has compiled this description of the normal physical signs, under the impression that students are confused by the usual method of giving the normal with the abnormal. It is arranged in note book style. It contains a good many valuable suggestions. In fact it would be a right handy thing to carry with the stethoscope, etc.

The Thyroid Gland by Charles H. Mayo, M. D., and Henry W. Plummer, M. D. Published by C. V. Mosby Co., St. Louis. Price \$1.75.

This is one of the Beaumont Foundation lectures. In Part I, Dr. Mays discusses the anatomy and physiology of the thyroid gland, the etiology of goiter, biologic chemistry, thyroxin, bacteriology of goiter geographic distribution and incidence, defects found in drafted men, the parathyroids, the total and nitrogenous metabolism in exophthalmic goiter. In Part II, Dr. Plummer discusses the function of the thyroid gland, the classification of goiter, hyperthyroid states, and the theory of dysfunction of the thyroid.

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### Co-Operating With Your Physicians

To the steadily increasing number of pharmacists who are handling biologics, and who realize the rapid growth of the tendency of the medical profession to employ these therapeutic agents in their practice, the announcement that the United States Public Health Service has issued to E. R. Squibb & Sons the first license ever granted for the manufacture and sale of Erysipelas Antitoxin is of the utmost importance.

The fact that approximately 3000 deaths are caused annually by erysipelas and that thousands of other cases are under treatment emphasizes the vital importance of Erysipelas Antitoxin Squibb as a scientific

attainment and as an ally in offsetting the ravages of this dread disease.

From a commercial viewpoint, the offering of this new antitoxin affords the pharmacist additional opportunity to co-operate with his physicians and to develop his business along strictly professional lines and in a highly profitable manner.

Erysipelas Antitoxin Squibb is marketed under an exclusive license from the School of Medicine and Dentistry of the University of Rochester, N. Y., and is prepared according to the principles developed by Dr. Konrad E. Birkhaug of that institution.

The license provides, among other things, that samples of each lot of Erysipelas Antitoxin Squibb must be submitted to the University of Rochester for test and approval before distribution. This control is in addition to that made in the Squibb Biological Laboratories and constitutes an added guarantee of the potency of the antitoxin. The control by a laboratory outside of the Squibb organization is of particular importance in the case of Erysipelas Antitoxin because the Hygienic Laboratory of the United States Public Health Service has not established any standard of potency and does not recognize "units" of potency.

Erysipelas Antitoxin Squibb is supplied in concentrated form only and will be distributed only in syringe packages, containing one average "Therapeutic Dose."

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### A Standard for Pituitary Extract

One of the pleasing features of the Tenth Revision of the U. S. Pharmacopoeia is the inclusion therein of a definite standard of activity for pituitary extract. Inasmuch as pituitary extract is best known as an oxytocic, it is the effect of the extract upon the uterus of a virgin guinea pig that constitutes the official test. Some manufacturers, however, among them Parke, Davis & Co., apply the pressor or blood-pressure-raising test as well, since pituitrin (pituitary extract, P. D. & Co.) is administered for its effect upon the arterial system in hemorrhage and other conditions, and for its regulating effect upon both the intestinal musculature and the musculature of the bladder.

It is impossible for the physician to judge of the activity of a pituitary preparation by physical examination of it. Manufacturing methods have made it possible to produce pituitary extracts not only far below the standard, but far above it; hence the urgent necessity of the pharmacopoeial re-

quirement in the interest of definite dosage.

In this case, however, as in many others, the physician is dependent upon the manufacturer not only because he himself has none but clinical means of testing the activity of the product, but because the products of different houses vary, and possibly also the product of the same house at different times. A manufacturing concern of recognized scientific standing is really the only guaranty of quality that the physician has.

### Resolutions

Whereas, in the death of Dr. E. N. Daniels, the Medical Profession and the community have lost a capable and devoted member and citizen, and

Whereas, we recognized in Dr. Daniels, a high standard of living and professional ethics and courtesy, and

Whereas, we deeply deplore his sudden and unexpected death,

Therefore Resolved, that we extend our sincere sympathy and condolence to his family in their great bereavement.

Resolved Further, that a copy of these resolutions be furnished the family and also a copy to The Journal of the Kansas Medical Society.

W. H. COOK, President,

E. E. BREWER, Sec'y,

Mitchell County Medical Society.

### Significance of Achlorhydria

Whenever persistent achlorhydria is found, William Fitch Cheney, San Francisco (*Journal A. M. A.*, July 3, 1926), says one should think first of pernicious anemia present or to come. A careful search should be made for all other evidence to be obtained by history, physical examination, laboratory tests and roentgen-ray reports, before the conclusion is reached that pernicious anemia does not exist. Achlorhydria may indicate cancer of the stomach, chronic gastritis, chronic gallbladder disease, subacute combined degeneration of the spinal cord, and finally, the neuroses. The absence of free hydrochloric acid from stomach contents may not always mean pernicious anemia, or malignant disease of the stomach, or chronic inflammation of the gastric mucous membrane, or gallbladder disease, or disease of the spinal cord. For there remains a group of cases in which apparently there is nothing else to explain the achlorhydria except a disturbance of in-

nervation. Such cases have long been described as purely functional. In these the absence of gastric secretion has been said to persist for long periods without disturbance of the patient's general health or digestion, or at most has resulted in temporary spells of greater or less gastric discomfort or in recurring attacks of diarrhea. More seems to depend on whether the motor as well as the secretory function is depressed; for, if motility remains normal, no symptoms usually arise. There are several general nervous conditions with which this suppression of gastric secretion is commonly found associated. First in frequency comes visceroptosis with neurasthenia, commonly known as Glenard's disease. Achlorhydria is found in Glenard's disease with sufficient frequency to make it appear probable that it may be a true consequence; but visceroptotic patients are not exempt from pernicious anemia, cancer of the stomach or gallbladder disease, so that one must always be on the alert and must not conclude prematurely that the absence of free hydrochloric acid is fully explained by the gastropoptosis or by the accompanying neurasthenia. Second, neurasthenia without visceroptosis has been charged with the responsibility for achlorhydria, which is then attributed to lack of proper supply of nervous energy to the stomach even when its position is normal. Third, hysteria must be kept in mind, particularly that type of it which has been described as anorexia nervosa. When achlorhydria is found in the course of a routine investigation made to explain a dyspepsia, some of these other peculiar symptoms and signs, as well as aerophagia or a globus hystericus, are sufficient to give the clue as to why gastric secretion is absent.

### Omentopexy in Cirrhosis of Liver

Frederick W. Lester, Seneca Falls, N. Y. (*Journal A. M. A.*, April 10, 1926), reports a case of cirrhosis of the liver in which he did an omentopexy according to Narath's method. The abdomen was opened through the right rectus muscle above the umbilicus, and all the fluid that could be secured, about 6,000 cc., was evacuated and sponged away. A pocket was then made at the right side of the incision by raising the skin and superficial fascia. Into this pocket was inserted a portion of the omentum, about three fourths of the total bulk, which was securely fastened there by means of several chromic catgut sutures. The portion of omentum, thus brought outside the abdomen, was then



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fastened around its base to the edges of the opening in the peritoneum through which it came, and the abdomen closed in layers without drainage, four or five silkworm interrupted sutures being used through the skin and fascia as supporting sutures. The result was very satisfactory. Thirty-two months after the operation the patient was able to work from six to eight hours daily at his trade. No injurious effects resulted from diverting so large a part of the omentum from its usual location.

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R

### Cancer of Stomach

John William Shuman, Los Angeles (Journal A. M. A. April 10, 1926), reports the case of a man, aged 52, who had a pylorotomy at 33 for cancer, and died a little more than seventeen years later, well beyond the five year limit of recurrence. Only during the last year of his life did he have severe symptoms. An operation resulting in artificial feedings might have prolonged his life. This he refused. The cause of his death was extensive carcinoma of the cardiac end of the stomach.

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R

### Paroxysmal Tachycardia Associated With Focal Myocarditis

The evidence in the case reported by Ralph H. Major and H. R. Wahl, Kansas City, Kan. (Journal A. M. A., April 10, 1926), favors the diagnosis of ventricular tachycardia, although this cannot be positively asserted. The association of focal infection of the tonsils and teeth with foci of infection in the myocardium is very significant. It is probably a tachycardia due to myocarditis, which was the result of the streptococcic focal infection from which the patient suffered. It is of extreme interest that the patient showed a definite early arteritis of the coronary arteries, apparently due to the same cause. He had atheromatous plaques on the aorta, which were far more numerous than would be expected in a man of his age. The authors feel that this case furnishes definite evidence of the role that streptococcic focal infection may play in cardiac and arterial changes.

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R

### Occurrence of Throat Infections With Streptococcus Scarletinae Without Rash

An investigation was made by Franklin A. Stevens and A. R. Dochez, New York (Journal A. M. A., April 10, 1926), of an epidemic of hemolytic streptococcus infection as to whether an anginal infection with

*Streptococcus scarlatinae* can occur without a rash. If such infection does occur, does it occur in susceptible persons, as indicated by the intracutaneous toxin test for immunity? Do agglutination and toxin production correspond as a test of specificity for the identification of strains of hemolytic streptococcus during an epidemic of scarlet fever? Are strains of hemolytic streptococci from cases of acute pharyngitis as closely related as the groups from scarlet fever and erysipelas? These questions are answered as follows: Scarlatinal infection of the throat may occur without a rash. This type of infection may occur in individuals showing negative skin reactions to scarlatinal toxin. The Dick test is not a reliable index of immunity to such throat infections with *Streptococcus scarlatinae*. Agglutination reactions with scarlatinal serum and toxin production are closely parallel. There is no antigenic relationship between strains of hemolytic streptococci from acute streptococcus pharyngitis.

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R

### Vertigo

Dana W. Drury, Boston (Journal A. M. A., July 3, 1926), avers that vertigo is distinctly an aural symptom. The eighth nerve, comparatively invulnerable by injury from without, seems susceptible to toxic agents reaching the ear by the blood or lymph streams. Vertigo in young persons is ordinary transient and unimportant; vertigo in elderly folk is apt to be recurrent and of serious moment. The only endocrine connection is through a lowered vital function with a concomitant lowered metabolism, emphasizing the fact that vertigo must of necessity be regarded as an end-result of metabolic error.

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R

### Practical Consideration of Renal Physiology and Function

Philip S. Hench, Rochester, Minn. (Journal A.M.A., July 3, 1926), reviews the functions of the kidney, theories on renal physiology, application of physiologic knowledge, frequency and significance of albuminuria and types of nephritis, and endorses five tests of renal function: The phenolsulphonphthalein test; water (dilution) test; concentration test; the mercury combining power of saliva (the salivary index) and of blood and the estimation of the erythrocytes and hemoglobin. These tests are aids not only in diagnosis, but also in prognosis and treatment.



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### The Management of the Second Stage of Labor

J. P. GREENHILL, M. D., Chicago

Attending Obstetrician, Chicago Lying-in Hospital,  
Associate in Obstetrics, Northwestern University  
Medical School

Read at the Annual Meeting of the Kansas Medical  
Society at Kansas City, May 4-6, 1926.

Reflection will show that most physicians, young as well as old, feel more confident of securing good results in obstetrics than they do in any other branch of medicine. Certainly in no other field of medicine does the doctor take as much for granted and risk as much as he does in the practice of obstetrics. The reason for this is that childbirth is considered to be a normal process. However, in the large proportion of women this is not so. In the United States, according to DeLee, about 20,000 women and more than 100,000 babies lose their lives yearly as the result of childbirth. Furthermore, of the women who recover, fully one-half suffer for years from the effects of labor. Approximately one-half of our gynecological operations are necessitated by the damage which results from labor. Nowhere in nature do we find a normal process which is associated with such a frightful number of deaths, with as much trauma and as much permanent invalidism as results from childbirth. For these reasons we cannot call labor a normal process.

Fortunately, however, most of the deaths and injuries which result from confinement are preventable. Careful observation of patients during pregnancy and the proper conduct of labor will very considerably reduce the maternal and fetal mortality and morbidity. Prenatal care is not within the scope of this paper, but you will all agree that it is of prime importance. Prophylaxis is most essential in pregnancy and for its success education of the public is necessary. The layman must be made to realize that a labor case begins at the time of conception and that it is important for the pregnant woman to see a physician as soon as she is pregnant. Once in the hands of a physician the responsibility rests largely upon the latter. He must guide the patient through pregnancy so that she and her

child can go through the ordeal of labor with a minimum of injury.

When labor begins the best place for the delivery is a hospital. Unfortunately most of our women are still delivered in their homes. Of prime importance for the physician who delivers his patients at home, is preparedness, not only in knowledge but also with instruments. You will all agree that asepsis and antisepsis are basic principles. In the home they are difficult to carry out but there is no doubt that they can be practiced there very effectively. The technic which our interns of the Chicago Lying-in Hospital and Dispensary use in the homes is a model for simplicity and effectiveness.

At the beginning of labor it is essential that a diagnosis of presentation and position be made, the heart tones should be counted and the amount of dilatation of the cervix should be determined, preferably by rectal examination. The blood pressure should be measured and the urine examined. The heart and lungs, if not previously examined, should be examined at this time. If there is evident disproportion between the child's head and the pelvis (and hydrocephalus can be excluded) cesarean section is, of course, indicated.

During the first stage of labor the general plan of treatment is one of watchful expectancy. This consists of lessening the strain of labor by morphine and scopolamin or the morphine-magnesium sulphate-rectal analgesia of Gwathmey, seeing that the bladder and rectum are kept empty and that the patient takes fluids and nourishment. Of great importance is careful observation of the fetal heart tones.

Throughout labor one must watch for signs of trouble. Nature usually throws out little signals which, if properly evaluated, give us a clue that something is wrong. This is particularly true in the second stage of labor. A large number of the 20,000 women who die yearly as the result of childbirth lose their lives because of mismanagement of the second stage of labor; and while a fair number of the 100,000 babies who die yearly at birth, die as the result of congenital defects, syphilis, toxemia and other causes, most of them

die during the second stage of labor, or during efforts to terminate this stage. Besides this very large fetal mortality, many babies are injured, but not fatally, during delivery either by the natural powers or as more often happens, by operative interferences.

What procedure shall we follow during the second stage of labor? By the second stage is meant that period which extends from the time of complete dilatation of the cervix to the time when the entire fetus is expelled. It is not always easy to tell when this period starts, for bearing-down pains do not always indicate the beginning of the second stage, and neither does rupture of the membranes. Usually a few sharp pains accompanied by a show of bright blood indicate that the head is slipping through the cervix.

When the second stage is reached, the patient and bed should be prepared for delivery and sterile instruments, solutions, cord tie, etc., should be placed near the bed. For multipara preparation should be made even before the cervix is completely dilated. One should look after the bladder and bowels just as in the first stage. Once the second stage has begun, the physician should not leave the patient until delivery has been completed.

Essentially four main points are to be considered during the second stage, namely: asepsis and antisepsis, anesthesia, protection of the life of the child and preservation of the perineum.

All are agreed on the necessity of asepsis and antisepsis, but the importance of this matter cannot be emphasized too much. The aseptic technic of the patient in labor should be even more perfect than that of a surgical patient.

As regards anesthesia there is almost unanimous opinion that women should be relieved of the pains of labor as much as possible, but men differ in the type of anesthetic employed. It is inadvisable to give narcotic drugs, such as morphine, during the second stage because of the likelihood of harm to the child. Inhalation anesthesia, which may be in the form of ether, nitrous oxide and oxygen, ethylene, or chloroform is to be used. We generally prefer ether of ethylene and advise against chloroform. With the beginning of each uterine contraction felt by the hand on the abdomen, a few whiffs of ether or ethylene are given and at the moment the head passes the vulva, the anesthesia is deepened.

As regards the preservation of the life of the fetus, it can be said with assurance

that attention to the child during the second stage of ordinary labor will result in the saving of many lives. One should watch carefully for the first signs of asphyxia and this is done by listening to the fetal heart tones every five minutes or oftener when indicated. For this purpose we employ the DeLee-Hillis stethoscope which rests on the head and can be kept there during normal deliveries and forceps operations. Both hands remain free and sterile at all times even while the heart tones are carefully and constantly controlled.

After every spontaneous delivery of a full-term child there is some damage to the perineum. The urogenital septum is always ruptured, the connective tissue is torn in numerous places, the layers of fascia are loosened, the levator ani muscles are usually lacerated, and in general all the tissues are bruised. This condition is usually prevented by an episiotomy which should be performed in most primiparas with full-term babies and in multiparas where the pelvic floor simulates that of primiparas. If an episiotomy is not done, tears may be minimized by delivering the head slowly and in forced flexion, to present to the pelvic canal the smallest circumference of the fetal head. We shall discuss episiotomy later on.

The second stage of labor at times may be complicated by atony of the uterus, particularly after a prolonged painful first stage. If the second stage lasts a long time, fetal asphyxia may result from diminution in the placental area due to retraction of the uterus. The caput succedaneum becomes large, which indicates that the fetus is suffering from cerebral congestion. The mother may suffer a depressing effect on her nervous system from fatigue and worry over the lack of progress of labor. She may later develop a vesicovaginal fistula due to pressure of the fetal head. If there is delay one should attempt to find the cause. If the patient has a pendulous abdomen, a tight abdominal binder will help. Sometimes the exaggerated lithotomy position helps, for the thighs support the abdominal muscles and straighten out the fetus. The levator ani muscles are tightened, thereby facilitating anterior rotation of the occiput and the outlet of the bony pelvis is enlarged. The squatting Indian attitude may give the same result. It may be necessary to instruct the patient how to bear down during the pains but the physician should not encourage the patient to bear down too strongly or too frequently because much damage may be done to the



pelvic fascias, to the cervix and to the baby.

If there is delay after the head is well down on the perineum, both hands may be spread evenly over the fundus of the uterus and gentle pressure exerted in the axis of the outlet, but only during uterine contractions. This method is not without danger for there may result rupture of the uterus, abruptio placentae, and injury to the abdominal viscera. Episiotomy should not be forgotten. If the above measures fail, forceps are indicated. In this country at least 75 per cent of all forceps operations are for this indication.

I have purposely avoided the mention of pituitrin in the above discussion. We never use this drug in the second stage of labor because of its dangerous effects. The only time pituitrin may be given is for uterine atony in a multipara in whom the bony outlet is not contracted and when the head is on the pelvic floor. Even in this type of case we prefer the use of forceps because we can control the forceps, but we cannot always control pituitrin, even with anesthesia. Furthermore, in cases where the use of pituitrin might come into question, the forceps operations are very easily and quickly performed without injury to mother or child.

The above discussion had reference to cases in which the fetal head is well engaged, perhaps visible. If in a primipara the head is not engaged, that is, if the lowest part of the fetal skull has not yet reached the spines of the ischia (which indicates that the largest plane of the head has passed the pelvic inlet) the treatment is much more difficult. If the head cannot be made to enter the pelvis one might try the Walcher position. The patient sits at the very edge of a table with her legs hanging down. This, however, does not often yield results. In these cases high forceps operations and versions and extraction are dangerous because of the frequency and extent of the necessarily inflicted lacerations. If both mother and child are in good condition, cesarean section is indicated, but one should attempt to recognize the necessity for cesarean section as early as possible. The longer the patient is in labor, especially if the membranes have ruptured, the greater the mortality and morbidity. In these cases, particularly, the cervical cesarean section is the operation of choice.

In a considerable number of cases, more than is usually recognized, there is an anomaly in position. This is mainly in the form of an occiput posterior. In these cases la-

bor usually lasts a long time because the occiput must rotate 135 degrees instead of 45 degrees, hence the uterus becomes exhausted and the patient tired out. These patients should be given morphine and scopolamin or the Gwathmey analgesia in the first stage. Fortunately in most of these cases the head rotates anteriorly and delivers spontaneously. Despite this, however, more babies are lost from occiput posterior than from any other one cause. This is essentially due to failure in making a correct diagnosis early in labor and yet the diagnosis is relatively easy. First of all, the type of labor may give a clue. The pains are weak and irregular and early rupture of the membranes is frequent. The head remains high for a long time and even though strong pains occur, the head may be rotated only part of the way and be arrested in the transverse diameter. Dilatation of the cervix is incomplete because the head does not fit well. Abdominally, a distinct hollow may be seen over the symphysis. The shoulder is far from the midline and the fetal heart tones are deep in the flank but may at times be heard on the opposite side. The small parts are very prominent anteriorly. Internal examination will reveal the head high up, partly deflected and the large fontanelle more accessible than usual because it is nearer the center of the pelvis. The small fontanelle is near the sacrum. The caput succedaneum may be so large that the sutures are hard to identify. In this event locate the ear and feel the curve of the tragus. The latter will always indicate the direction of the occiput. If there is no disproportion between the head and the pelvis the treatment is expectant until an indication for interference arises.

If the patient cannot deliver herself spontaneously after a reasonable length of time she should be narcotized. With the hand, the fetal head should be rotated anteriorly. The case may then be left to nature or forceps may be applied and the head delivered. Where the bag of waters is intact and the head high but there is no disproportion between the head and the pelvis, a version and extraction may be performed. If in such a case the labor has lasted a long time and the cervix is not fully effaced and dilated, especially if the patient is an elderly primipara in good condition, a low, cervical cesarean section should be done, otherwise the baby might be lost and the mother severely injured.

While it is generally advisable to follow a policy of watchful waiting in the second stage, just as in the first, one should not

allow a woman to remain in labor too long. We should not wait to see what a patient "can endure but what she can accomplish." To wait too long may mean death to both mother and child. On the other hand, because the patient makes a great deal of noise and the family insists that something be done, one should not interfere too soon. This would be meddling midwifery; but to interfere after a reasonable but not too prolonged test of labor is life-saving. A long second stage is conducive to the development of sepsis and to the thinning out of the lower uterine segment with the possibility of rupture of the uterus.

The dangers of the second stage to the child are numerous and almost every kind of injury has been caused by the forces of spontaneous or so-called normal labor. There have resulted fractures of the skull and long bones, rupture of the tentorium cerebelli, intracranial hemorrhages, retinal hemorrhages, facial paralysis, Erb's paralysis, rupture of the sternocleidomastoid muscle resulting in wry neck, rupture of the cord, etc. The most common danger, however, is asphyxia, the result of premature separation of the placenta or prolonged compression of the brain with intracranial hemorrhage. This is easily detected by listening to the fetal heart tones. If the latter are irregular or less than 100 per minute the child should be delivered provided the necessary conditions are fulfilled. In general five per cent of all babies die during labor and a fair proportion of these occur in natural unassisted deliveries. Neurologists as well as obstetricians have for many years pointed out the connection between prolonged hard labors and epilepsy, idiocy, imbecility, cerebral palsy, and permanent disorders of the special senses. In fact, statistics and pathological studies seem to show that properly performed instrumental delivery is safer than prolonged, hard, unassisted labor; for it seems that the brief and moderate compression of the head in a skillfully performed forceps operation is less dangerous to the integrity of the brain than the prolonged pounding and congestion it suffers from a hard spontaneous delivery.

My plea, therefore, is for the experienced physician to interfere in the second stage by means of episiotomy or an episiotomy and the application of forceps soon after the patient has demonstrated her inability to complete delivery herself. In cases where the occiput is still posterior when interference is resorted to, the occiput should be rotated manually before forceps are applied.

An episiotomy should be made before rotating the head because it makes rotation and delivery easier. We shall, therefore, discuss in order episiotomy, manual rotation, and the use of forceps.

Episiotomy saves the child's head from prolonged compression, it shortens the duration of labor, it forestalls fetal asphyxia and it prevents ragged lacerations which are almost inevitable otherwise. Of the three types of episiotomy, namely, median, lateral and medio-lateral, we prefer the medio-lateral. With one or more cuts we divide the skin, vaginal mucous membrane, the urogenital septum with the constrictor cunni and transversus perinei muscles and the fascia over the levator ani muscles. Before making the cut, it is best to wait until the head has stretched the levator ani muscles. This is recognized by the opening of the anus and the dislocation of the anus downward and forward. A pair of scissors should be used. One blade is laid on the vaginal mucous membrane and the other rests on the skin midway between the anus and the tuberosity of the ischium, the cutting angle being at the median raphe. The patient is given a few whiffs of ether or gas as the cut is made. In cases where the head is well down, delivery takes place spontaneously as soon as the cut is made. In other cases forceps must be applied. The episiotomy is not repaired until after the expulsion of the placenta. It is then sutured with figure-of-eight silkworm-gut sutures which take in all the layers. Care must be taken to prevent instruments and suture material from coming in contact with the anus. By means of a properly performed episiotomy and repair, almost virginal conditions are restored.

Manual rotation of the head is accomplished as follows: Two or four fingers of one hand obtain a hold on the baby's skull behind the ears and pull the occiput downward and forward. The other hand, which is on the outside, above the pubis, pushes the forehead toward the back part of the pelvis. When the occiput has been rotated anteriorly, the inside hand keeps the occiput in place and also serves to guide the first forceps blade into place. If this procedure is not successful, the patient is anesthetized and the whole hand, the palm of which is directed towards the baby's face, is passed into the uterus, disengaging the head and pushing it upward. With the tips of the fingers the posterior shoulder of the baby is rotated to the front. The head moves with the trunk. The outside hand aids by pulling the anterior shoulder to the



front. Then the inside hand leads the head down into the pelvis and the outside hand aids this by pressing downward on the occiput. Care must be exercised in order to avoid a prolapse of the cord. After bringing the head into its new position, it may be advisable to leave the case to nature for a few hours until the head has been moulded, the tissues softened and the head nearer the outlet. This greatly facilitates delivery, either spontaneous or instrumental.

If forceps are to be applied, five conditions must be fulfilled. First, there must be no disproportion between the baby's head and the mother's pelvis. Second, the cervix must be completely effaced and dilated, or nearly so. Third, the head must be engaged. Fourth, the bag of waters must be ruptured and fifth, the child must be living. After the application of the forceps blades and before they are locked, one should listen to the fetal heart. For this purpose the head stethoscope is especially adapted. If the heart tones remain regular, the forceps are locked. If the heart tones change when the forceps are applied it usually means that a loop of cord is being compressed by the forceps. In this event the forceps should be removed and reapplied. If the heart tones again change it is better to deliver the child by version and extraction.

In doing a forceps delivery one should first of all be certain of the position of the occiput. Palpation of the baby's ears will always verify the diagnosis. The bladder should be catheterized before every forceps delivery.

The operator should sit comfortably with the elbows at the sides and in making traction he should seldom use more force than is furnished by the biceps muscles. If much more force is necessary the probabilities are that the diagnosis of position is not correct. In this event the forceps should be removed and a careful examination made. Time should not be considered but one must listen to the fetal heart tones after every traction or two. Traction should be intermittent and not accompanied by pendulous or twisting motions. The line of traction should correspond with the axis of the parturient canal.

If the manual rotation of the occiput fails, the forceps should be applied in the transverse diameter of the pelvis and one trial traction made in the horizontal plane. The object is to observe the mechanism intended by nature. If the occiput tends to rotate anteriorly, the blades should be opened and readjusted in a manner to favor

anterior rotation. This readaptation of the forceps blades is repeated at intervals until the small fontanelle turns toward the symphysis pubis, then delivery is accomplished as usual. If during the first or trial traction the occiput tends to rotate posteriorly the head should be delivered with the occiput posteriorly else serious damage may result. When the head is to be delivered with the occiput posteriorly, a deep episiotomy should be made to avoid extensive lacerations.

Face presentations sometimes give a great deal of trouble. Generally speaking, most face presentations deliver spontaneously with the chin anterior. In most of the cases where the chin is posterior at the beginning of labor, the chin rotates anteriorly and a spontaneous delivery results. Delivery of a full-term child with the chin posterior is almost out of the question. One should never attempt to deliver with forceps a face presentation where the chin is posterior. The face must always be rotated so that the chin is anterior or at least in the transverse diameter, before the forceps are applied. One may also convert a face presentation into an occiput presentation, then leave the case to nature or apply forceps and deliver. Probably the best treatment of face presentation for the general practitioner when interference becomes necessary is version and extraction. In all cases where the face delivers first, a deep episiotomy should be performed else extensive lacerations might result.

For breech cases a policy of expectancy should be followed in the second stage just as in the first, unless an indication for quick delivery arises. In multiparas very little trouble will be encountered in the majority of cases; but in primiparas there is a large fetal mortality and a high maternal and fetal morbidity. One should not interfere until the buttocks have been delivered over the perineum unless a definite indication arises. In all primiparas if the baby is large, a deep episiotomy should be performed. Great haste is not essential and care should be taken to avoid fractures. No attempt should be made to deliver the arms until the anterior scapula is visible. Pulling on the child's neck should not be practiced as it may result in Erb's paralysis, fracture of the cervical vertebrae and other injuries. Pressure on the child's head from above is the essential thing in the delivery of the after-coming head but the pressure should not be exerted blindly. The head must be properly flexed before aid is given from above and much force should never be used.

If the head is in the pelvic cavity and difficulty is encountered, one should not use force but forceps should be applied to the after-coming head. Hence, before doing a breech extraction (or a version and extraction) a pair of forceps should be sterilized with the other instruments.

There is very little time for a discussion of the treatment of the second stage of labor in transverse presentations. One should always deliver a patient who has a transverse presentation as soon as there is complete dilatation of the cervix. This is nearly always accomplished by version and extraction.

Immediately after the child in any type of delivery is born, it is a good thing to give the mother an ampoule of pituitrin. This hastens separation of the placenta and saves blood. In addition, we usually give morphine and scopolamin at this time. This reduces the amount of ether or gas necessary for the repair of the episiotomy and also prolongs the narcosis for many hours, thus permitting the patient to have a restful sleep which helps abolish the memory of labor. After the expulsion of the placenta we give an ampoule of ergot. This also helps to make the field of repair bloodless.

A word about asphyxia neonatorum may not be amiss. By close observation of the fetal heart tones this can always be detected and timely interference will save most of the babies. If there is complete dilatation and the head is engaged, forceps with or without episiotomy is the method of choice; if the head is not engaged and the cervix is completely dilated, provided there is no disproportion, version and extraction is preferable.

If a child is born asphyxiated, it is not necessary to use forcible means to resuscitate it. First of all warmth is essential, hence a towel, preferably a warm one, is wrapped around the baby. The respiratory passages must be cleared of plugs of mucus and this is best accomplished by means of a tracheal catheter. If respiration does not begin spontaneously after this, air should be blown into the child's lungs through the tracheal catheter, but with extreme gentleness. These measures will resuscitate practically every baby which can be reanimated.

In closing, I should like to emphasize the present, unnecessary high maternal and fetal mortality and morbidity. Physicians can reduce this considerably by careful observation of their patients during pregnancy, by the proper management of la-

bor and above all, by the education of their patients.

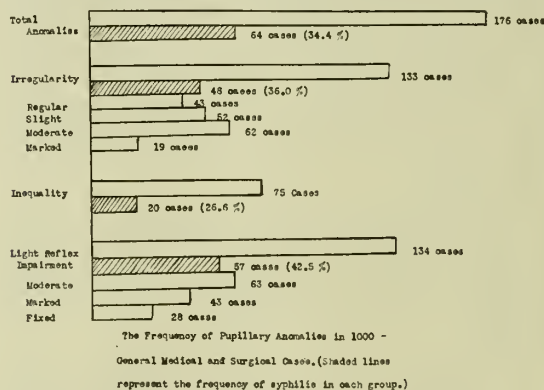
### The Frequency of Pupil Anomalies in General Medical and Surgical Cases

WILLIAM C. MENNINGER, M. D., Topeka

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, May 4-6, 1926.

The pupils of the eye are readily accessible to examination. Certain anomalies in regularity, equality, and reaction to light are established stigmata of neuropathology, especially of neurosyphilis. That these anomalies may have other significance is also recognized, however, and because of what seemed to be a frequent occurrence of such independent or idiopathic pupillary pathology, an attempt was made to determine the relative frequency of their occurrence and the relative frequency of a definite diagnostic indication.

In the course of 1000 routine examinations on the second division medical and surgical wards of Bellevue Hospital, the pupils were



specially examined, special care being made not to include cases primarily neurologic or ophthalmologic. Special inquiry was made regarding a history of eye disease or injury and the presence of subjective ocular symptoms (lacrimation, blurring, photophobia, headache, etc.). Note was made of a history of syphilis, anti-syphilitic treatment, objective signs of syphilis, and the blood Wassermann test in every case. The spinal fluid Wassermann test was made as often as possible, but although very desirable for such a study, in the majority of cases a lumbar puncture could not be done. Certain exclusions were made on the basis of age, because it is generally recognized that senility affects the pupillary reactions; no cases over 60 years of age were included and of the cases between 40 and 60 years old, only those which presented quite marked anomalies were included. This series in-



cludes, moreover, no patients under 15 years of age and only a few under 20.

An analysis of the anomalies found in the routine examination of this one thousand cases is presented in the following table:

Irregularity of contour	133	(13.3%)
Inequality	75	(7.5%)
Sluggish reaction to light	106	(10.6%)
No reaction to light	28	(2.8%)
Other anomalies	4	(.4%)
Total number of cases		
showing some anomaly	176	(17.6%)

Comparing these findings with previous reports in the literature, it appears that in a series of 14,392 general cases, Uhthoff<sup>30</sup> found only 1.8 per cent to show abnormalities; Iwanoff<sup>15</sup> nine per cent of 134 cases; Mautoux<sup>19</sup> nine per cent of 185 cases; De-four<sup>9</sup> 4.5 per cent of 173 cases. However as all of these writers were interested in fixation or near fixation of the pupils, their figures do not include all the anomalies included in the present study. The importance of these other anomalies is emphasized in all neurological text-books, and is obvious from a consideration of many neurological case reports yet the precise data concerning pupillary pathology other than marked anomalies is rarely mentioned, or considered sufficiently in the diagnostic examination of routine medical cases. The statistical data just cited indicates the error of this omission. It remains to analyze the anomalies specifically as to type, degree, and relationship to syphilis.

*Irregularity of the Pupil:* Of the 176 cases showing some pupil anomaly, the contour status was as shown in the following table:

Regular	43 cases
Slightly irregular	52 cases
Moderately irregular	62 cases
Very irregular	19 cases

Care was used to eliminate those cases of a known history of iritis or other form of eye disease and injury. Eliminating such cases as far as possible, the 133 cases in the the total series of 1000 studied, represented changes in contour due to other causes than local disease or injury.

The significance of this irregularity is difficult to evaluate, particularly in the case of moderately irregular pupils. A careful analysis of the 19 cases showing marked irregularity, however, shows that five had positive serum Wassermann tests and five others gave a definite history of syphilitic infection.

Wilbrand and Saenger<sup>31</sup> hold the opin-

ion that anisocoria often precedes fixation in neurosyphilis and is with the same diagnostic and prognostic significance. They quote Piltz<sup>25</sup> who made a detailed investigation of the literature on irregularities of the pupils in organic nervous system disease and some experimental work on animals. He concludes that tabes, paresis, and cerebral syphilis often present anomalies in pupil contour and seldom do such occur in other nervous and mental diseases; only very rarely do they occur in healthy individuals. These irregularities often occur earlier than the Argyll-Robertson phenomenon, so they are of important significance. Lewis<sup>16</sup> states that irregularity in contour may be congenital and quotes Piltz that in normal infants at birth, the contour is not always regular but soon becomes so. However in the adult, Lewis believes it to be rarely present in health and nearly always the advance or premonitory symptom of grave disease of the central nervous system such as tabes, paresis, or multiple sclerosis.

The present study does not support the view that pupil irregularities usually signify syphilis. Only slightly more than fifty per cent of the most marked cases could be demonstrated as syphilitic, and a very small percentage of the cases showing moderate and slight irregularities were syphilitic.

*Inequality of the Pupils:* In the 176 cases showing pupillary anomalies, 75 were unequal, or 7.5 per cent of the total 1000 cases examined.

The frequency of inequality in this series is lower than reported by most other observers. Schaumann<sup>27</sup> (quoted by Lewis) found 27.9 per cent of 1189 out-patient cases showed pupillary inequality and 37.8 per cent of 727 in-patient cases. He concludes that it is a peculiarity to the class with somatic stigmata of degeneration and of little diagnostic importance. Barrie<sup>2</sup> found inequality in 11 per cent of a series of men in whom there was no sign of ocular disease or manifestation of disease of the central nervous system. His conclusions of significance are that it is associated with all refractive conditions and occurs as a physiological condition. The highest figures which have come to the writer's attention are those of Friberger<sup>11</sup> who found 44.6 per cent of normal cases showing inequality of 0.25 m. m. or more, 56.6 per cent in phthisis, and 40.8 per cent of cases of neurasthenia and hysteria.

In considering the significance of these figures, there are many factors to be con-

sidered: it is generally agreed that inequality may be hereditary (Wilbrand and Saenger<sup>31</sup>, Fuchs<sup>13</sup>, Piltz<sup>25</sup>;) in the adult it is regarded by many as always being pathological (Hansell and Sweet<sup>14</sup>, DeSchweinitz<sup>8</sup>, Fuchs<sup>13</sup>) and by others that in many cases it is physiological (Barrie<sup>2</sup>, Schmidt-Rimpler<sup>28</sup>, Fromaget and Fromaget<sup>12</sup>, Lewis<sup>16</sup>). The question is well presented and the causes discussed by Brooks<sup>3</sup> who concludes that with the exclusion of reflex inequality accompanying eye disease and refractive errors, unequal pupils are always pathologic. In seeking the explanation, the recent work of Byrne<sup>5</sup> should also be considered, the chief import of which is that a unilateral lesion below the level of the umbilicus produces changes in the size of the pupil in the contralateral eye, while unilateral lesions above that level induce it in the homolateral eye. This was not considered at the time our series of observations were made but might account for a portion of them.

It is a pertinent question as to how many of our cases of unequal pupils were explicable on the bases of the most common cause of pupillary pathology, namely neurosyphilis. In the instances showing a marked inequality (23 cases) only five had positive serum Wassermann tests. The remaining instances (52 cases) which showed only a moderate inequality, included fifteen cases definitely syphilitic (eleven with positive Wassermann tests and four with positive histories but negative serology).

*Light Reflex:* The reaction to direct light stimulation was as follows:

Normal reaction -----	42 cases
Moderate impairment of reaction -----	63 cases
Marked impairment of reaction -----	43 cases
No reaction -----	28 cases

An attempt is made in the above groupings to include both impairment in the speed of the reaction as well as in the distance through which the reaction takes place. Both were considered in determining the classification of a case. These figures include those cases which may have shown the phenomenon in one or in both eyes.

In the group of cases in which the pupil was fixed to light, there were sixteen instances in which there was either a positive Wassermann test or a definite history of syphilis. In the remaining 12 cases, the pupils responded to accommodation but not to light—the Argyll-Robertson phenomenon, and other than this sign, there was no

apparent objective proof of neurosyphilis. There are three explanations: (1) this sign may be only remains of a healed or arrested syphilis; (2) it may be the isolated sign of a localized neurosyphilis; (3) or it may be due to an organic central nervous system disease other than syphilis.

(1) It is recognized that in arrested cases of neurosyphilis, showing entirely negative serology, the Argyll-Robertson pupil may be present. This then represents the residual damage of an inactive or cured neurosyphilis in which at some previous time the Wassermann test was positive and has become negative. It may be the only remaining scar of such a process.

(2) The occurrence of the fixed pupil to light stimulation as an isolated sign of neurosyphilis has long been recognized. Meyer<sup>21</sup> found it once in 71 cases in which there were no other objective anomalies of the central nervous system, Buttino<sup>4</sup> records it once in 70 cases, and Mautoux<sup>19</sup> once in 101 cases. Other such isolated cases are reported by Fleck<sup>10</sup>, Dufour<sup>9</sup>, Babinski and Charpentier<sup>1</sup>, Mass<sup>18</sup>, etc. Nonne<sup>23</sup> concludes from many years of study that an isolated pupil fixation may remain stationary for years or it may be associated with a rapidly progressive neuro-syphilis, but in any case it is of prognostic importance and entire dependence should not be placed on a four plus Wassermann reaction. Wilbrand and Saenger<sup>31</sup> call attention to the occurrence of isolated pupil fixation and when occurring with negative serologic findings, regard it as a favorable prognostic sign. Wullenweber<sup>33</sup> concluding from the study of 28 cases, regards these instances with a more favorable prognosis and Thaysen<sup>29</sup> bases his therapy in such cases on the changes in the pupils, they being the only objective anomaly. The last named worker maintains that cases over 55 years of age have a good prognosis despite the blood Wassermann test but under this age, treatment is advisable.

(3) Neurological conditions, other than syphilis, in which the Argyll-Robertson pupil occurs are numerous: it is recorded frequently in disseminated sclerosis, cerebral tumors, syringomyelia or syringobulbia, less commonly in chronic alcoholism, diabetes mellitus, chronic hypertrophic interstitial neuritis, progressive muscular atrophy, and traumatic lesions (Wilson<sup>32</sup>). It is also recorded in epidemic encephalitis<sup>24</sup>, meningitis<sup>26</sup>, and in various poisonings<sup>13</sup>.

A unilateral Argyll-Robertson pupil was present in seven cases, three of which were



definitely syphilitic. The remaining four failed to show any other signs of syphilis. Caspar<sup>6</sup> in 1906 found only seven instances in 26,000 cases examined and only ten previously reported cases in the literature. Lutz<sup>17</sup> states that about four per cent of all paretic neurosyphilis cases showing pupillary fixation present unilateral Argyll-Robertson pupil and Mott<sup>22</sup> reports three per cent of 150 hospital and asylum cases of tabetic neurosyphilis showing this phenomenon. Dercum<sup>7</sup> quotes Berger as noting it in three instances of 109 tabetics and Gowers once in 72 cases. Dercum noted it four times in 30 cases but states that it is observed much more frequently in paretic neurosyphilis.

The interpretation of the pupillary reactions to light is also difficult. Sixty-four per cent of the cases showing complete light fixation were definitely syphilitic without taking into account those cases in which the blood serum Wassermann test was negative and the spinal fluid may have been positive. However even of more interest are the remaining cases in which the blood Wassermann was negative and there were no other objective findings of syphilis. These cases included the following general medical or surgical diagnosis: two fractured femurs, two abscesses, pancreatitis, cholecystitis, carcinoma of the stomach, lobar pneumonia, empyema, rheumatic cardiac, chronic alcoholism, and diabetes mellitus. Cases of Argyll-Robertson pupils have been noted in both the last two systemic conditions although the explanation as to the cause is not clear. The fact that these may represent a healed syphilis cannot be ruled out except the history in each case was negative for syphilis and there were no other objective signs of syphilis on physical examination.

In the cases showing normal light reaction (42 cases) the Wassermann was negative in every case. This fact supported by the relatively high percentage of positive Wassermann tests in the completely fixed group, would suggest that the light reaction anomaly is the most significant as an indication of the presence of syphilis.

Other pupillary anomalies noted were the absence of the direct light reflex with the retention of the consensual reflex in two cases, one of which has been reported elsewhere<sup>20</sup>, and the fixation of accommodation with the presence of the reaction to light in two cases.

The Wassermann test was positive in 47 cases (45 cases with positive serum tests and two additional in which it was positive

in the cerebrospinal fluid and negative in the blood) or 4.7 per cent of the entire series of 1000 cases. It was positive in 26.7 per cent of the total number (176) of cases showing pupillary anomalies.

In 17 other cases, there is a history suggesting syphilis, or a total of 36.4 per cent of probable syphilitic cases. Thus in about one case in three showing a pupillary anomaly, one may expect to find other evidences of syphilis. The remaining two cases must be examined on a different basis.

In the present group, note was made of the various general medical and surgical diagnoses. The following table lists in general the major groups:

Diagnosis	Number of cases presenting some anomaly
Fracture of extremity	21
Trauma elsewhere	14
Chest diseases (including pneumonia, empyema, pleurisy, tuberculosis, emphysema, asthma)	21
Gastro-intestinal tract lesions (including carcinoma, gastric ulcer, cirrhosis, pancreatitis, colitis, hemorrhoids)	26
Localized infections (including cellulitis, ulcers, abscess, carbuncle, adenitis)	17
Hernia	15
Heart lesions of various types	14
Arthritis	4
Cerebral hemorrhage	5
Systemic syphilis	4

Conditions in which anomalies were less frequently noted include osteomyelitis, burns, trichianasis, uremia, arteriosclerosis, aortic aneurysm, ochronosis, alcoholism, rheumatic fever, gas poisoning, nephritis, cystitis, hydrocele, typhoid fever, food poisoning, varicose veins, lipoma, tuberculosis of the knee, poliomyelitis, amyotrophic lateral sclerosis, and alcoholic neuritis.

In a limited number of the above cases, the pupillary condition may be associated with the general condition, as in cerebral hemorrhage, chest diseases, aortic aneurysm, alcoholism, and questionably some traumatic lesions, but it is the writer's opinion that in the majority of the remaining cases there is no such relation. In the absence of other evidences of syphilis, it seems unlikely that they suggest even distantly the early stages of neurosyphilis, although only observations extending over many years could definitely prove or disprove any relationship. Assuming that there is a relationship between the pupillary anomalies and these few systemic conditions mentioned, there would still be approximately 33 per cent of cases unaccounted for by either syphilis or other systemic disease. In the absence of systemic or local causes for so large a number, the writer is inclined to regard the pupillary anomalies in this group

as stigmata of degeneration accompanying but independent of other somatic disease and consequently without important diagnostic significance.

#### SUMMARY

1. The pupils were examined in 1000 general medical and surgical cases, 17.6 per cent of which showed some anomaly.

2. Irregularity of the pupils was found in 13.3 per cent of all cases.

3. Inequality of the pupils was found in 7.5 per cent of all cases.

4. Impairment of the light reflex occurred in 13.4 per cent of cases, 43 cases showing marked impairment, and 28 being totally fixed to light.

5. Unilateral light fixation occurred in seven cases.

6. The Wassermann test was positive in 47 cases and 17 other cases gave a history of syphilis (6.4 per cent of the total number or 34.4 per cent of the cases showing pupillary anomalies.).

#### CONCLUSIONS

1. Pupillary anomalies, including irregularity, inequality, and impairment of light reflex, occur frequently in general medical and surgical cases, and in the majority of such cases do not bear any relation to neurosyphilis.

2. In about one-third of all cases of pupil abnormalities, however, syphilis is present and is probably directly related to the pupillary pathology.

3. The impairment of the light reflex is a more reliable diagnostic index as to the presence of syphilis than irregularity in the contour, and the latter is more reliable than inequality.

4. In a certain percentage of cases, pupillary anomalies apparently bear no relation to any systemic disease and in these cases may represent stigmata of degeneration without further diagnostic import.

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—R—

The American Bar Association at its Denver meeting July 15, 1926, gave a long and condemnatory report on the use of expert witnesses, and recommended the employment only at court order, salaries to be fixed and paid for by the state. There is no more fruitful cause in bringing disrepute upon the medical profession than that of medical experts, in testifying in criminal suits, as now conducted.

—R—

Oroya fever is a fatal disease. Altitude seemingly, has something to do with it since it is found in the Andes above six thousand feet, only? It is caused by Bartonella bacilliformis.



## Influence of the Kielland Forcep Technic in Instrumental Delivery

L. S. NELSON, M. D., Salina

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, May 4-6, 1926.

Certainly when one views in retrospect the history of "The Art of Obstetrics," he is struck by several facts. Chief among these I am sure is the slowness of its progress when compared to other branches of science, and this too, despite the fact that some knowledge of the processes of parturition have been known since man first inhabited the earth. Many facts were known and published even in the time of Hippocrates but these facts lacked the scientific basis of anatomical and physiological knowledge. Superstitions, beliefs and ignorances were prevalent then but with these was a fair knowledge of the symptomatology of labor. The human race passed through an era in which the woman went alone to a secluded spot or room and bore, not only the dangers attendant upon childbirth, but also the knowledge that her future human relationships depended upon her success or failure to bring forth a child. Somewhere during this time help began to be given by other women, but only at rare intervals were men consulted and then only when difficulties arose. Even this did not continue, for as late as 1522, Dr. Werth of Hamburg, Germany, disguised as a woman for the purpose of watching and studying the progress of labor was burned alive for his pains. Not long after this episode real progress began to appear in the form of study. Here the priests in Egypt who helped and prayed to a different deity for different pathological conditions as early as 3500 B. C., were replaced by men whose interest was no less keen and who began to believe that the facts in the case were important.

No introduction to an obstetrical procedure regarding instrumentation could be complete without mentioning the famous Chamberlaine family of men midwives, who invented and used in England the first instrument ever devised to help the fetal head through the female pelvis. Fortunate it is for us that they were not of the medical profession for though this was near the middle of the seventeenth century their commercialization of their invention soon became both notorious and obnoxious. Through political reasons the secret was driven with its owner to Holland and there sold to a Dutch surgeon named Roonjuyzen who guarded the secret so well that it had to be purchased by the Surgeons Guild of

Amsterdam. Our homage is due Jean Palfyn (1650-1731), a Belgian physician who practiced in Ghent and who independently fathomed the secret and developed the same instrument but a few years later. He presented his instrument in Paris in 1721.

To Francois Mauriceau, who lived from 1637 to 1709, goes the honor of being the first publisher of obstetrical literature which disseminated knowledge and encouraged research. He was one of the many true scientists that France has produced.

Certain it is that the greatest single stimulant to the art of obstetrics was the invention of forceps. In the history of the use and the many changes down through the time of Smellie, Simpson, Levret and others, the old leather-covered straight blade gave way to the forcep with the pelvic curve and much more recently the axis traction.

There are some comparative statistics which throw some light on the present condition of the obstetrical art in the United States. When we consider that in the late war ten men out of every thousand who enlisted did not come home, when we compare with that the fact that out of every thousand expectant mothers there are seven who do not survive and that of this same thousand there are eight of the fetuses which do not survive the ordeal of passing through the female pelvis, we realize something of the enormity of the number of lives sacrificed, needlessly or otherwise on the altar of reproduction.

Surely there is no better excuse for the serious consideration of methods of management of abnormal cases. Our concern is not with the nine hundred and thirty normal cases which occur in each thousand but with the other seventy which are abnormal and the nearly sixty of these which will pass through the pelvis if the management is proper. In 1924 it was very definitely stated that the morbidity and mortality of women in labor had not been reduced in the last twenty years. That nearly sixteen thousand women die in labor annually. These are the facts which must cause the medical profession to consider carefully any change of management or any new procedure which may possess even a possibility of helping the unfortunate expectant mother.

Prof. Kielland, of Christianna, Norway, invented in 1912 and presented to the Gynecological Society of Munich in 1915, a pair of forceps quite different from any previously used. Forceps are designed to bring the fetal head through the maternal

passage and to accomplish this without injury to either the head or the passage. Prof. Kielland's instrument complies well with these fundamentals and at the same time has some essential differences from the other types. The pelvic curve is absent, the blades are longer, the handles thinner, the lock is only a clasp, permitting a sliding so that the blades will accommodate themselves when the head is bent to one side or the other. For purposes of orientation there are two small buttons placed on the sides of the handles. The cephalic portions of the two blades are longer and these parts have a more gentle curve.

There is no field in medicine and surgery in which there are so many variations of procedure or less standardizations of action under a given set of circumstances, as we find in the practice of obstetrics, our best authorities however, are agreed on some points, one of which is the fact that no interference should be attempted unless progress of the head is interrupted and that a failure of the head to rotate or "transverse arrest" is the most common cause for complete interruption of progress. The subsequent symptoms of fatigue need not be recounted. It is in this particular phase of difficult obstetrical procedure that we find the Kielland forceps more particularly adapted than any other instrument thus far invented. Their use need not be confined to "transverse arrest" cases alone, which is demonstrated by the fact that several of the large European clinics use this instrument exclusively.

What now are the chief advantages of these forceps over any other which might be selected? First and foremost amongst the replies to this question must come the answer: They can always be applied in the bi-parietal diameter of the fetal head regardless of its position. Second, there is no displacement of the head on insertion and the pressure cannot come in an injurious way when traction begins. There is no need to change the application from the beginning to the end of the procedure.

—R—

### Aortitis and Its Complications

GEO. E. KNAPPENBERGER, M. D.,  
Kansas City, Mo.

Instructor in Medicine, University of Kansas  
School of Medicine.

Mesaortitis is such a common manifestation of tertiary syphilis, the effect so often disastrous, that it seems worth while for the medical man to frequently review the subject to the end that the disease be recognized earlier and treatment applied.

A clear conception of the function of the medial coat of the aorta, of the pathology and symptomatology of the disease, is obvious and symptomatology of the disease, is obvious the condition.

### ANATOMY AND PHYSIOLOGY OF THE AORTA

The aorta, like other arteries, has three coats: the intima, media and adventitia.

The intima is a thin lining of endothelial cells, making a smooth, practically frictionless conduit for the onward rush of the blood stream. It is not strong enough to be of any value as a supporting structure. It is possible that it has some connection with the reticulo-endothelial system in the production of large mononuclear cells.

The adventitia is a thin loose structure of fat, fibrous tissue and muscle cells, containing a rich network of lymphatics, blood vessels (vaso vasorum) and nerves. It is a very weak supporting structure, but weak as it is, is often called upon, as will be pointed out later, to bear almost the entire burden of the pressure of the blood column. Its normal function is to serve as a means of support for the accessory structures (vaso vasorum, lymphatics and nerves) which surround and accompany the blood vessels.

The media is the chief supporting coat of the artery. It is composed almost entirely of elastic tissue. It is a very thick, strong structure which expands with each contraction of the heart, permitting a large quantity of blood to pass quickly into the aorta without greatly increasing the systolic blood pressure. During diastole, it contracts, pressing the column of blood along to the peripheral arteries, maintaining a high diastolic pressure.

### PATHOLOGY OF MESAORTITIS

When syphilis attacks the aorta, the lesions are confined almost entirely to the medial elastic coat. The process consists in the formation of multiple miliary gummata in the medial coat, the spirocheta gaining entrance through the vasa vasorum in the adventitia.

Syphilis belongs to that group of diseases called the chronic granulomata, that is, a slowly developing infiltration of plasma cells, lymphocytes and exudate. Later there occurs a certain degree of arteritis obliterans, resulting in the formation of numerous giant cells surrounding a central necrotic mass. The central necrotic mass is slowly absorbed, the plasma cells transformed into fibrous tissue cells, the lymphocytes and exudate disappear and the le-



sion is entirely healed, leaving a small contracting scar composed of fibrous tissue and blood vessels.

The important factor to consider is the replacement of elastic tissue with contracting scar tissue. Almost the entire symptomatology is directly attributable to this.

#### PATHOLOGY OF ARTERIOSCLEROSIS

While mesaortitis, as the name implies, is a disease of the middle elastic coat, it is often complicated with atherosclerosis. This has resulted in considerable confusion of the two diseases. Oftimes it is difficult to see the syphilitic lesions in the media owing to the marked arteriosclerotic or atheromatous changes in the intima.

The two diseases have nothing to do with each other. Syphilis attacks the media in the manner described, atherosclerosis attacks the intima. In arteriosclerosis and atheroma there takes place a great thickening of the endothelial coat followed by a hyaline and fatty degeneration in the deeper layers. The masses of hyaline and fat may perforate into the lumen of the aorta, leaving an ulcer on its wall. The ulcers may fill with parietal thrombi and heal by the transformation of fibrin into fibrous tissue; they may fill with calcium salts, forming hard stony plaques; they may fill with cholesterin, or they may remain open and become infected. Advanced lesions of this sort are followed by some destruction of the media. This may be so diffuse that the entire aorta is dilated. It is common to have both diseases present in the same aorta.

Atheroma can be so extensive that the media is entirely destroyed in a small area, producing an aneurysm. These are always very small, practically never becoming larger than a hazelnut, are found in the

arch or descending portion, cannot be diagnosed clinically or by the x-ray and are found only at autopsy.

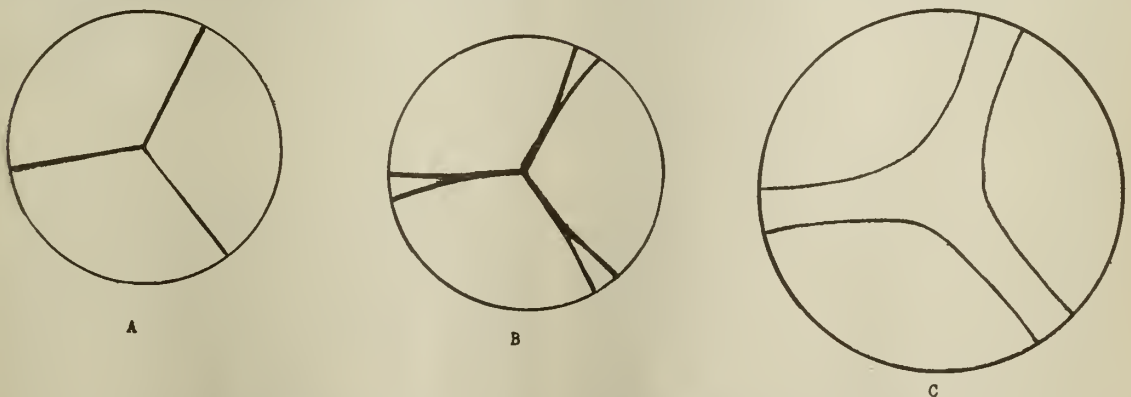
#### DIFFERENTIAL PATHOLOGICAL DIAGNOSIS

Atheromatous lesions are typical and characteristic. They consist of thickened or raised yellowish patches or ulcerations, ranging in size from a pin point to a quarter. The lesions of mesaortitis, on the other hand, consist of tiny reddish blue or violet patches or dots shining through the intima, the intima being thrown up into delicate folds or wrinkles on account of the contraction of the scar tissue beneath.

Either disease can cause such a diffuse destruction of the media that the aorta is uniformly dilated. The constant bombardment of the blood column on the weakened non-elastic wall gradually causes the wall to give way, the lumen becomes larger and larger until the limit of tissue stretching is reached. The automatic blood pressure regulating apparatus constantly attempts to maintain a pressure sufficient to nourish the peripheral tissues. After the elasticity of the aorta is destroyed, the systolic pressure must be increased to maintain the peripheral circulation and this adds an extra burden to an already weakened wall.

At autopsy, one often sees the most advanced atheromatous changes in an aneurysmal cavity. In fact this is the rule. How then are these two lesions to be differentiated? First, by the character of the lesions themselves, as already explained; second, and quite as important, by the site of the lesions.

Syphilis shows a predilection to involve the beginning portion of the aorta just above the commissures of the valves. It is a descending lesion and rarely goes below



Diagrammatic Cross Section of the Aorta at the Valve Site.

A.—Normal aorta. Valve leaflets close completely B.—Syphilitic separation of the commissures. Leaflets close along free border, regurgitation only at periphery. C.—Marked dilatation of aorta with separation of commissures and failure of valve leaflets to close along free border. Regurgitation at all points.

the diaphragm. This has been explained as being due to the small amount of elastic tissue below the diaphragm. Atheroma, on the other hand, shows a predilection for the peripheral arteries and is an ascending lesion. The most advanced lesions are usually seen in the distal or peripheral arteries, and little, or none at all, in the proximal.

In the case of the aorta, the most advanced arteriosclerotic and atheromatous changes are seen below the diaphragm, gradually thinning out or disappearing entirely in the arch or ascending portion. Certain exceptions occur, especially if the beginning portion is the seat of a mesaortitis. In this instance, the atheromatous changes may be so diffuse and advanced in the beginning portion as to almost completely cover the lesions of the mesaortitis. A careful search, however, in the ascending aorta will always reveal the tiny reddish blue or violet points produced by syphilis.

While syphilis shows a predilection to attack the aorta just above the commissures of the valves (probably more than 50 per cent of cases), it often begins higher up in the ascending portion or even in the arch or descending portion. Large fusiform or sacculated aneurysms may develop in the arch or descending portion and the ascending portion remain entirely free from the disease.

#### TYPES OF MESAORTITIS

1. *Valve Commissure*: If the disease attacks the medial coat of the artery in the typical location just above the aortic valves, the following phenomena occur. The lesions are grouped above one, two, or all three of the commissures. The aortic valves are attached to the media, therefore, when the media is destroyed and replaced by contracting fibrous tissue, the valve commissures become separated. They will not be able to close completely during diastole and blood will regurgitate into the left ventricle. The regurgitation takes place at the periphery, at the point of insertion of the valves, the valves are not at all affected along the free border as in rheumatic disease.

If the disease progresses, a gradual dilatation occurs in the beginning portion or annular ring of the aorta. This results in a further separation of the commissures, the valve leaflets fail to close along the free border, and regurgitation occurs, not only at the periphery, but in the center of the lumen as well. As this proceeds, the left ventricle becomes hypertrophied and dilated and the typical "aortic configured heart" is produced.

A curious pathological accident occurs not

infrequently, when an individual is the victim of both syphilitic and rheumatic disease of the aortic valves. If the rheumatic disease results in a glueing together of the valves along the free border at the periphery, the syphilitic disease cannot cause a separation of the commissures.

2. *Coronary stenosis*: If the disease attacks the aorta a little higher up, or in a different location, say, for example, in the region of the coronary sulci, what is the result? As has been emphasized, the end result in gummata is contracting scar tissue, therefore, when they occur in the region of the ostium of a coronary artery, a gradual stenosis of the ostium takes place. This may be partial or complete, may involve one or both coronaries; it is simply a matter of chance which one is involved first or more extensively.

The lesions never extend into the lumen of the coronaries, only the mouths or ostii are affected, but the annular ring of scar tissue may be sufficient to contract the opening to a pin point or completely occlude it. If one coronary is involved and the other remains free, the collateral circulation between the two coronaries will increase sufficiently to nourish the entire heart and the patient may never show a symptom of heart failure. If, however, both coronaries are affected, and the disease is not arrested, heart failure and death results.

3. *Supravalvular (aneurysm)*: Syphilis may attack the superior portion of the ascending aorta, the arch, or the descending portion. The commissure region and the beginning portion may remain entirely free. In this instance, the typical fusiform or saccular aneurysms are seen.

4. *Combined*: The disease may affect the entire proximal aorta, producing a combination of all three types. Possibly only two may be present, say, regurgitation and coronary stenosis; or coronary stenosis and aneurysm of the arch. All varieties and combinations are seen.

#### SYMPTOMATOLOGY AND DIAGNOSIS

Aortic disease usually presents quite typical objective symptoms. The subjective symptoms vary a great deal with the individual. It is easy to more or less standardize the classical objective symptoms but the personal element will so vary the subjective that the greatest difference will be seen. Objective symptoms will vary according to the extent and location of the disease, the subjective vary according to the temperament, occupation, mode of life and general reaction of the individual to stimuli.



The symptoms will bear, in most instances, a direct relationship to the pathology that is present, therefore, in a general way it is possible to divide cases into four general groups:

1. Aortic regurgitation.
2. Coronary stenosis.
3. Aneurysm.
4. Mixed types.

#### AORTIC REGURGITATION

Aortic regurgitation, uncomplicated by coronary stenosis or marked aneurysm, may present absolutely no subjective symptoms. Another case may present any or all of the following: shortness of breath, palpitation of the heart, a feeling of uneasiness, dizzy attacks, cough, pain behind the sternum, in the left neck or shoulder; noise or pain in the left ear; the patient may be conscious of a shaking of the entire body with each beat of the heart.

Objectively, a patient seen early in the course of the disease will have fewer and milder symptoms than one who is about to succumb to the disease.

#### INSPECTION

By inspection alone, the diagnosis is often made. The shaking of the body with each impulse of the heart is so characteristic of a high pulse pressure that it always suggests aortic regurgitation. A capillary pulse is often present. Both these symptoms may be seen in high blood pressure however, with a high pulse pressure.

The arterial phenomena, especially of the aortic arch and the subclavians, is almost pathognomonic. The arch is seen to pulsate in the jugular notch, the subclavians above the clavicles. Visible pulsation of the right subclavian is normal in some individuals, owing to the superficial situation of the artery, but a visible pulsation in the left subclavian is nearly always pathological. It is known as Huchard's sign.

The pulsations are, in part, due to the high pulse pressure, in part, to the loss of elasticity of the arteries, both acting to push them into a more superficial position.

Visible pulsations can be seen in any condition tending to push a normal aorta to a higher and more superficial position. They can be observed in enlargement of the heart, mediastinal affections, a high position of the heart (sometimes observed in short individuals with a high diaphragm). In such cases, the location of the apex beat is helpful.

The marked abdominal pulsations often seen in aneurysm or aortic regurgitation are due to the same causes. When confronted

with this symptom, one should look for the cause in the thoracic aorta since abdominal aneurysm is a very rare affection. In some cases there is possibly a reversed flow of blood during each cardiac phase which could account for the systolic and diastolic murmurs heard over the peripheral arteries.

The apex beat is displaced outward and downward. Sometimes extreme degrees of dilatation of the left ventricle occur and the apex beat is seen in the sixth or seventh interspace in the axillary line. It makes a quick, hard impact against the chest wall, sometimes sufficient to shake the entire thorax.

A murmur can sometimes be heard with each heart beat if the observer listens close to the open mouth of the patient. This is due either to the rapid change occurring between the systolic and diastolic pressures or to the expulsion of air from the trachea.

#### PALPATION

Palpation reveals the same phenomena observed by inspection. Displacement of the apex beat outward and downward and a hard thrusting impact against the chest wall. If the regurgitation is marked, a presystolic or diastolic thrill may be felt. Palpation of the aortic arch shows a markedly increased impact closer to the finger than normal. A systolic thrill or bruit is felt over the arch or in the subclavians or carotids.

The pulse is the typical water hammer type so well described by Corrigan in 1832. Often there is a difference in the volume of the radial pulses due to parietal thrombi in the aorta or partial stenosis of the innominate or subclavian.

#### PERCUSSION

A typical case shows a greatly increased area of dullness extending downward and to the left, the typical aortic configuration or shoe shaped heart. Percussion dullness over the aorta depends upon the location and extent of the lesion. If the disease is confined to the valvular area there may be no appreciable enlargement of the aorta and therefore no percussion dullness. In well marked cases, the dullness is elicited in the second right interspace, which is normally resonant.

A normal aorta, in the normal position, cannot be demonstrated by percussion. It must either be enlarged or displaced to give dullness on percussion. One often sees clinicians demonstrate an area of dullness over the aortic region in a normal individual but it is not possible to do so if the per-

cussion is correct. There is an unconscious tendency to change the percussion stroke, or vary the angle of the pleximeter finger as the aorta is approached from the side. Either error will give a false note, which can easily be interpreted as dullness.

This point is injected into the discussion to emphasize the fact that when an area of dullness is actually demonstrated over the aorta it is an absolute sign of enlargement or displacement of the aorta or a tumor mass in the mediastinum. It is one of the most valuable physical signs in diagnosis and can be depended upon in every case.

If the lung is emphysematous, the aorta can be enlarged and still show no percussion dullness. One must then depend upon other signs.

#### AUSCULTATION

Auscultation in typical cases reveals the characteristic diastolic decrescendo murmur over the second right interspace or over the third interspace left (Erb's point). It may be heard all along the left border of the sternum. It has been likened to the sound produced by pouring water in a well. Many times it is very faint and cannot be heard with the stethoscope but can be heard with the ear over the bare chest. The Germans, with their short, simple "listening tubes," are able to hear more diastolic murmurs than we are with our long rubber tube apparatus.

Almost invariably there is a systolic murmur or bruit over the aorta and up along the great vessels of the neck. This murmur is not so rough as that produced by aortic stenosis, is not transmitted over the right chest in the same manner, is not accompanied by a systolic thrill and can easily be differentiated from aortic stenosis by feeling the pulse.

A systolic murmur over the aorta can be produced by any lesion which roughens the aortic wall or makes a disproportion between the annular ring and the ascending portion, or atherosclerosis or calcareous degeneration of the base of the valve leaflets.

The pre-systolic murmur, often heard over the apex and known as the Austin Flint murmur, is produced either by the column of blood regurgitating into the left ventricle or a vibration of the mitral valve leaflet on the aortic side. This should not be confused with the murmur of mitral stenosis, the sound may be the same but the other signs of mitral stenosis are absent.

#### BLOOD PRESSURE

The determination of the blood pressure aids much in the diagnosis. Ordinarily there

is a high systolic and a low diastolic pressure. There is practically no reasonable limit to the variation in the pulse pressure. Readings are made of systolic 200 and diastolic 40, or even more. The reason is a purely mechanical one. If the aortic valves are incompetent and the blood streams back into the left ventricle after each beat of the heart, the peripheral tissues become anemic. This calls for an increase in the systolic pressure to throw the blood harder and farther along the arteries. The left ventricle automatically responds to the limit of its ability. When the valves are incompetent, there is nothing to hold the diastolic pressure up except the elasticity of the aorta, which in itself is not sufficient.

The same causes are responsible for the capillary pulse, the arterial pulsations, the peripheral vessel murmurs and the shakings of the patient.

#### CORONARY STENOSIS

Such an accident, as explained earlier, results in no symptoms if only one coronary is involved, if both are involved, extreme cardiac failure and death occurs. It is possible to see syphilis so affect the coronaries that the most profound cardiac failure results and yet the patient show no aortic regurgitation, no aneurysm and no enlargement of the heart.

The symptoms may be of an anginal character, either mild or severe. Either the right, the left or both sides of the heart may show the effect of the strain, it is purely a matter of chance which is affected first. If the right heart is more affected, the patient will present cyanosis, edema, swelling of the liver and general venous engorgement. If the left side is more affected, the symptoms will be more those of left side failure, such as pulmonary congestion, cough, spitting of blood and cerebral anemia.

The striking symptom is profound heart failure without physical signs to account for it. It is often mistaken for coronary thrombosis and the differential diagnosis is made by the other signs of syphilis or arterial degeneration, the serological test, and often the therapeutic test.

#### ANEURYSM

These may be of the fusiform, saccular or dissecting types. The more or less symmetrical dilatation of the ascending aorta or of the arch is a common clinical picture. The symptomatology of all types can well be discussed together inasmuch as what applies to one applies to all except for the location.

Much of what has been said regarding



aortic regurgitation applies to aneurysm but there are certain points of difference. If the aneurysm is above the valves, the valves may be perfectly competent, therefore no regurgitation, no enlargement of the heart, and no direct cardiac symptoms.

The arterial phenomena can be even more pronounced in aneurysm than in regurgitation, especially is this true of the aortic arch and the subclavians. The same impulses may be seen, the same murmurs or bruits may be felt.

The percussion findings are easily demonstrated. A wide area of dullness is found over the aorta, extending more to the right if the lesion is in the ascending portion; more to the left if the lesion is in the arch or descending portion.

Tracheal tug is often present. The aorta hangs over the left bronchus like a walking stick over the arm and if the aorta is enlarged and pulsating the trachea will be pulled down with each impulse.

The degree of cardiac enlargement depends to a large extent upon the competency of the aortic valves. One often sees a very large aneurysm with a perfectly normal sized heart. It is not uncommon to see an aneurysm larger than the heart.

A symptom of very great value in the diagnosis of aortic disease above the valves, whether it be due to syphilis or atherosclerosis, is the presence of a ringing second aortic. This has a bell like quality and is quite different from the accentuated second aortic heard in high blood pressure. A little experience with each sound will easily show the difference.

A ringing second aortic means aortic disease whenever found. One is able at times to diagnose mesaortitis very early by this symptom, making it therefore a very valuable sign.

The blood pressure findings in aneurysm are very much like those in aortic regurgitation. As already explained, two factors operate to maintain diastolic pressure—the closing of the aortic valves and the elasticity of the aorta. If either is lost the pulse pressure increases. The loss of elasticity of the aorta appears to be as important a factor as the competency of the aortic valves. Aneurysms cause severe anginal attacks in some individuals, others have none. There does not seem to be any regularity in the appearance of this symptom and no rule to go by in foretelling its approach. Subjective signs in aortic disease, as in all other diseases, are variable and unreliable. The physical signs are all important.

A large aneurysm may press upon some

of the mediastinal structures and interfere with their functions. Thus one sees: hoarseness, due to pressure on the recurrent laryngeal nerve; a brassy cough, due to pressure upon the trachea or bronchus; bronchial stenosis, with secondary lung complications; pressure upon the esophagus, with difficulty in swallowing or regurgitation of food. Pressure necrosis of the sternum or anterior ribs with large bulging, pulsating tumors is not uncommon.

#### X-RAY DIAGNOSIS

This is a very valuable aid in the diagnosis of doubtful cases and gives exact information in all cases. The exact width of the aorta can be determined and recorded by means of the two meter plate or the orthodiagram.

The orthodiagraphic method requires a specially constructed fluoroscope—one with a fixed screen and a movable tube. The tube shifts in all directions, the ray emerges through a small diaphragm to insure the use of parallel rays. The borders of the aorta can be recorded in a series of dots on the screen with a glass pencil. Later the dots are connected together into a continuous line and the figure transferred to semi-transparent paper.

The determination of the site and extent of aortic enlargement is much more accurate by fluoroscopic than by physical diagnostic methods. Sometimes a definite aortic enlargement, which has entirely escaped physical examination, is accidentally found during the course of x-ray examination for other purposes.

A broad aortic arch is often confused with aortic enlargement. This is likely to occur if fluoroscopy is made only in the anterior-posterior direction. The examination should be made in one of two ways:

1. With the patient in the right anterior oblique position, both borders of the aorta are seen as it emerges above the heart shadow. This is measured by the orthodiagraphic method. It is necessary to make only two dots upon the screen and measure the distance between them.

2. The Kreuzfuch's method. The patient stands in the anterior posterior position, is allowed to swallow a mouthful of thick barium paste, a mark is made on the screen at the point where the esophagus crosses the right border of the aorta. This is determined by the indentation always present on the esophageal shadow at the point of crossing. The left border is now brought into line with the central ray and a dot made on the screen.

Both methods are valuable but the first is

probably the one of choice as it is simpler and furnishes a record of the width of the aorta in the beginning portion near the valves, a point of importance in the diagnosis of mesaortitis.

The relationship between the border of the right auricle and the ascending aorta is an invaluable diagnostic sign. Normally the right auricle extends about one centimeter farther to the right than the ascending aorta. This relationship is quickly changed if the beginning portion of the aorta is dilated. In advanced cases it is common to see the border of the aorta extend farther to the right than the auricle.

In middle aged or elderly people the question arises, is the dilatation due to syphilis or atherosclerosis? A point of great value in making this differentiation is the determination of the site of the dilatation. If the beginning portion is dilated and the remainder normal sized, the evidence points to syphilis. If the dilatation involves the aorta higher up, this fact cannot be used to any advantage because both diseases are likely to involve the arch. Furthermore, both diseases can be present in the same patient.

#### ELECTROCARDIOGRAPHIC DIAGNOSIS

The electrocardiograph is of no value in diagnosing syphilitic disease per se. If an arrhythmia develops during the course of syphilitic disease of the heart or aorta, an electrocardiogram is invaluable in locating the lesion in the conduction system and gives a partial idea as to its extent. It does not give a clue to the type of pathology present nor of the amount of muscular damage. An arrhythmia in a syphilitic patient can only be proven as due to syphilis by the test of therapy.

#### COURSE OF THE DISEASE

Aneurysm is a most persistent destroyer of tissue. The constant bombardment of the blood column can cause a pressure necrosis of the esophagus or trachea, erode the bodies of the vertebrae, sternum or ribs. An aneurysm can fill with a thrombus and undergo spontaneous cure. It may rupture into the esophagus, trachea, pericardium or mediastinum and produce death. Unless treated it usually is a progressive disease ultimately resulting in death.

Syphilis of the aorta may undergo spontaneous cure. One sees autopsies on very old people, who during life never had a symptom suggesting mesaortitis, yet at section, presented all the classical pathology of the disease. The inference is that the disease here, as well as in other parts of the

body, is cured spontaneously in many instances.

The natural tendency is toward progression and a fatal outcome, but just because an individual has mesaortitis is not sufficient reason to say the condition is hopeless and death will result. In general, the outlook is unfavorable, either with or without treatment. Unfortunately the diagnosis is not made or cannot be made until so much elastic tissue is destroyed that the weakened wall will not stand up under the constant blood pressure, and sooner or later, the wall gives way, the aneurysm becomes larger, cardiac failure appears or the aneurysm ruptures.

#### PROGNOSIS

Dr. Paul F. Stookey recently said in an address before the Kansas City Academy of Medicine: "The prognosis of mesaortitis cannot be anticipated, it depends upon the individual response to therapy." This no doubt is quite true, the individual response to treatment is a variable factor and the individual resistance to syphilis is probably a still more variable factor.

In a general way, however, it can be said that the site of the lesion will determine, to a certain extent, the prognosis. If the lesion is in the valvular area, the prognosis is bad. Experience shows that syphilitic aortic regurgitation is a very serious disease and likely to cause the death of the patient at any time.

Likewise, if the lesion is in the neighborhood of the coronary arteries, the prognosis is bad. Probably the most favorable type is that in the arch or descending portion of the aorta.

Another qualifying factor in the disease is the frequent association of vascular syphilis with neurosyphilis. Probably more than 50 per cent of tabetics also suffer from mesaortitis. The individual might be able to withstand the aortic disease and live to a ripe old age if the neurosyphilis were not present. Taken as a whole then, the outlook and expectancy is unfavorable, some suffer little or none at all but the majority succumb to it or some form of neurosyphilis.

#### TREATMENT

The diagnosis of mesaortitis or aneurysm is a definite indication for active anti-syphilitic treatment. Drugs which might cause severe systemic reactions should not be used in the presence of aneurysm. One sees frequent autopsies following the malarial treatment for paresis. The severe toxemia



of malaria is likely to cause a rupture of the aneurysm.

Treatment often stops the progress of the disease but elastic tissue already destroyed will not regenerate. The aortic wall remains permanently weakened in proportion to the destruction of elastic tissue. Therefore, early and persistent treatment is obviously important.

It seems to be the consensus of opinion that the iodides and mercury are the drugs of choice, although the arsenicals are not necessarily contra-indicated.

In the presence of heart failure, the indications for treatment are the same as in heart failure from any other cause. Digitalis should be used in full dosage according to the principles first laid down by Withering.

—R—

## UNIVERSITY OF KANSAS CLINICS

Clinic of Dr. Frank M. Denslow

Department of Urology.

### INCRUSTED CYSTITIS

There is a type of cystitis which is characterized by very frequent and painful urination, bloody urine, and the passage of small stones from the bladder at more or less frequent intervals. In this country Dr. John R. Caulk of St. Louis was the first to call attention to this condition as a separate disease entity, in 1914. It had previously been written upon by Marion, Zuckerkandl and other in Europe.

Cystoscopy in this condition reveals incrustations of calcareous material adherent to the wall of the bladder, presenting in some areas the appearance of masses of coral, and a thin dusting or silvering of other portions of the bladder with the same material. It collects in a film of mucus, which is difficult to scrape from the bladder wall. Ulcerations and papillary projections are prone to form in these bladders as a result rather than a cause of the disease, and to form points of attachment of the masses.

Hager and Magath experimentally proved this condition due to the *Salmonella ammonia bacillus*. Urine coming from the kidneys as acid and sterile was shown to be changed to alkaline in the bladder by conversion of its urea into ammonia by the action of this organism, the conversion in voided urine being complete in six hours. Other organisms, such as the *B. Proteus* reported by Caulk and *B. Coli* (which was the only organism reported from the laboratory on our present case) are probably not causative factors.

Incrusted cystitis is very resistant to

treatment. Curettement of the lesions through suprapubic cystotomy is followed by recurrence. All urinary antiseptics by mouth and many kinds of bladder irrigations have been failures. Caulk reported cures by the injection of suspensions of Bulgarian Lactic Bacillus tablets into the bladder. In a personal communication, Hager and Magath recommended the injection of a weak solution of lead acetate, acetic acid and distilled water daily, after a cleansing irrigation, and occasional curettement of the lesions through the cystoscope.

We have had personal experience with five of these cases, two men and three women. Two of these patients cleared up quickly by the use of Bulgarian bacillus suspension in lactose water injected into the bladder. Two of the cases were not benefitted by anything we could do for them. They left our care before we knew of the lead acetate and acetic solution, but the disease had resisted all other methods of treatment. One of the cures under the Bulgarian bacillus suspension afterward had some sort of recurrence but as she lived outside of the state she did not return for examination.

The case which we have lately had under treatment is a man sixty-four years of age, upon whom I did an operation for benign adenoma of the prostate, of large size, in November, 1925. His wound healed uneventfully and he left the hospital in thirty days. Cystoscopy at that time revealed the absence of residual urine and no trouble in the bladder. He returned March 22, 1926, with a history of having passed small calculi. He had great frequency and pain and the urine was full of blood and mucus. There were coral-like masses about the bladder orifice and a film of the same material in the prostatic urethra. Some of the material was removed with the bladder rongeur, —a gritty mass imbedded in tough mucus.

For twelve days he was given the Bulgarian bacillus injections without benefit. April 9, 1926, he had a severe hemorrhage in the bladder, could not void on account of the clots, and an emergency cystotomy had to be done to relieve the retention. At the same time the incrustations were scraped off and a portion of the bladder orifice was removed for section with the Young punch.

The cystotomy wound closed in a few days, though we tried to keep it open for treatment of the bladder. April 29, cystoscopy showed a smaller amount of incrustation in the same area as before. The lesions were scrubbed with 10 per cent silver nitrate through the posterior urethroscope. At

that time daily injections of the lead acetate-acetic solution were begun and kept up for six weeks. May 10, the patient was again cystoscoped and the two small areas remaining were curetted. At that time the patient was improved to the extent that he had to rise but once at night to void. The urine had become clear. He left the hospital with instructions to continue the use of the injection two or three times a week. At the present time he can sleep all night, and is apparently well.

While this small number of cases of this rather unusual condition shows nothing more than the difficulty and uncertainty of its treatment, the last one gives us some grounds for encouragement. We may have found in the curettement of the lesions through the cystoscope, frequently repeated, and the daily injections of a weak solution of lead acetate and acetic acid, and the application of 10 per cent silver nitrate solution through the urethroscope to such lesions as are in and about the prostatic orifice, a rational and effective method of treatment.

#### —————R————— Meeting Emergencies

Associated with many present-day emergencies in which the health of a community is concerned, in which, perhaps, the lives of many persons are in jeopardy—are hurry calls from physicians for biological products.

The discovery of smallpox in a neighborhood and vaccination by the wholesale; an explosion, such as occurred at Lake Denmark, N. J., where the possibility of many cases of tetanus threatened; an outbreak of diphtheria in a school or community; a mad dog scare—all these are emergencies in meeting which the medical profession is depending more and more upon the administration of biological products.

Physicians in most instances, even in private practice, want immediate service in this form of treatment. They wish to be sure of the potency of these biologics and they depend in nearly every instance upon pharmacists to provide ready and effective cooperation in both quality and service.

In consideration of these demands, many of them amounting to emergency proportions, E. R. Squibb & Sons are providing greater facilities for furnishing both the medical and the pharmaceutical professions with the products whose delivery in the shortest possible time may save innumerable lives.

Through its depots that are being opened in various cities throughout the United

States, the House of Squibb is providing sources of supply for arsphenamines, insulin and biological products, kept under proper refrigeration and quickly available at any hour to the physicians and the pharmacists of the respective neighborhoods.

Thus far depots have been established as follows:

New Orleans, La. Depot at 402 Queen and Crescent Building, 344 Camp Street, Telephone—Day, Main 8636; Night, Walnut 4392.

Pittsburgh, Pa. Depot at 604 Maloney Building, 339 Second Avenue, Telephone—Court 1220.

Minneapolis, Minn. Depot at 237 Transportation Building, 317 Second Avenue, South; Telephone—Day, Geneva 3248; Night, South 8716.

Seattle, Wash. Depot at 216-217 Crary Building, Fifth and Union Streets; Telephone: Elliott 1878.

Baltimore, Md. Depot at 1027 Munsey Building, 5 North Calvert Street, Telephone—Calvert 4308.

Additional depots with similar facilities are being planned for Los Angeles and Boston.

Similar service will, of course, continue to be provided to pharmacists and physicians through the New York Office, 80 Beekman Street, and through the various branches, located as follows:

Chicago, Ill., at 323 West Lake Street; San Francisco, Calif., at 608 Folsom Street; Kansas City, Mo., at 706 Delaware Street; Atlanta, Ga., at 270-272 Ivy Street.

Pharmacists should advise their physicians of these exceptional facilities, the greatest value of which will be apparent in emergencies where, upon early delivery, may depend the life of one or many persons. Make a note of street and telephone numbers of the nearest Squibb depot or branch. Every progressive pharmacist should talk it over with the Squibb representative in his territory so that when that emergency arises there will be no confusion, no lost motion but simply an immediate call for the product needed and equally prompt delivery.

#### —————R—————

According to statistics compiled by the Bureau of Agricultural Economics of the Department of Agriculture, the average person in the United States consumes fifty-five gallons of milk, seventeen pounds of butter, four pounds of cheese, fifteen pounds of condensed and evaporated milk and three gallons of ice cream each year.



# THE JOURNAL

of The

## Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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### A FORWARD MOVEMENT

When a comparison is made with other state associations, it would seem that for some time the Kansas Medical Society has made little or no progress. Its membership has not changed materially and its activities have been confined to the routine functions established more than a dozen years ago. There were excellent reasons for not enlarging its scope of activities, the principal and most important of these has been that the Society has had a fairly fixed income with a steadily increasing cost of maintenance.

At the annual meeting in 1925 the constitution was amended so that the annual dues could be raised from \$3.00 to \$5.00. No funds were available from this increase in dues until this year, however. It was the understanding that this increased income would permit the Society to undertake a wider field of activity, and the matter was discussed from various standpoints at the last annual meeting. The President in his annual address advised that a bureau should be formed, which should direct all the activities of the Society that were concerned with the relations of the public to the medical profession.

The House of Delegates seemed favorably disposed toward the recommendation and

referred the matter to the Council. The Council appointed a committee to prepare plans for the organization of such a bureau and report to the Executive Committee for action.

The committee appointed by the Council and the Executive Committee held a meeting on August 18th and discussed the plans that had been outlined.

With some modifications the Executive Committee endorsed the plans proposed and authorized their further development and initiation. So that the Society now has a Bureau of Public Relations, operating from the office of the Journal. The Editor of the Journal is the Executive Secretary. It is governed by a board composed of the Executive Committee of the Council, the Chairman of the three regular standing committees and the Editor of the Journal. The Executive Committee of the Council is composed of the President, President-Elect, Secretary, Treasurer, and Chairman of the Defense Board.

A full program has not yet been decided upon, but the proposed plans embrace public lectures; use of newspapers for general educational propaganda; cooperation with the State Board of Health in preparation of publicity, securing statistics, etc.; planning and organizing campaigns for improved legislation.

Preliminary work has been started on the development of these plans. Secretaries of county societies have been informed of the establishment of the Bureau and their cooperation invited. At this writing, replies from secretaries are coming in and it is gratifying to receive assurances of their hearty support.

Several hundred short articles will be required for the newspaper campaign and members of the Society are invited to submit articles for this purpose. These should be not over five hundred words, written in language that the people will understand, and about things of a medical nature that they will be interested in. All these articles will be carefully edited before they are sent out and will be published unsigned.

It is hoped that a sufficient number of lecturers to supply all engagements may be

secured from among the members of the Society. There are in our Society a considerable number of men who have had experience on the platform, and who are fully competent to fill any lecture engagement with credit to themselves and to the Society.

Volunteers for this purpose are solicited, if the number of volunteers is inadequate, others will be drafted. Some conditions are necessarily imposed: the lecture must be carefully prepared and submitted to the Bureau for approval; the lecture must be committed to memory so that the lecturer need not refer to his manuscript.

The personal element must be eliminated from all of these lectures. They are not intended to react to the personal benefit of the lecturer, and anything that might be construed by the local practitioners as self applause or solicitation, should be carefully avoided. As a matter of policy an effort will be made to supply lecturers from sections of the state most distant from those in which the lectures are to be given.

#### THE OBJECTIVE

Since a considerable part of the campaign proposed is one of publicity, educational publicity it may be called, it may be well to discuss its purposes. For the purposes should govern to some extent at least, the character of the matter sent out. And it may be assumed that any educational propaganda fostered by the various organizations of the medical profession has a definite objective, one in the accomplishment of which the profession may share with the people in the benefits that may result. In spite of its traditional altruism these unusual efforts of the medical profession are not being made for the benefit of the people alone.

The government, municipal, state and federal, has assumed the responsibility for the control and prevention of contagious diseases, and a great deal has been accomplished by the educational efforts of the various branches of the public health service in this direction. Epidemics, with one or two exceptions, have been practically eliminated as a considerable factor in mortality statistics. The continued efforts of these

agencies will ultimately eliminate other of the more active causes of death. By teaching the people something of the nature and causes of disease their cooperation has been secured. The medical profession has always given and will continue to give its hearty support to every preventive measure adopted by the public health authorities. But since the government has assumed the responsibility for prevention and its agents are paid for the administration of its laws and regulations the particular function of the medical profession is now restricted to the diagnosis and cure of disease. There is no necessity or occasion for its interference in what is now recognized as the legitimate field of the public health service.

It may also be assumed that it is not the purpose of this campaign to teach the people how to diagnose and treat the diseases with which they are or may be afflicted. That is a needless and hopeless undertaking. The knowledge it has taken the doctor years of careful study and experience to acquire cannot be imparted to a layman in a few lectures or a few newspaper articles. Attempts of that kind serve no good purpose for the people or the profession nor do they tend to promote the ultimate attainment of the real objective.

One of the immediate concerns of the medical profession now has to do with unfair competition. The laws which were intended to protect the people against incompetent practitioners, and justify the expenditure of the time and money required for a complete medical education have been so far annulled by special legislation that they do neither. There is no contest with practitioners of the various cults that a physician may enter without sacrificing his dignity as a member of the medical profession. There is no prospect for relief by further legislation until the people have been taught, have been convinced of, the importance of a thorough medical training for all those who are permitted to treat the sick. That is to be the definite objective of the publicity campaign now proposed.

There are still some people who think that medical skill is inherited from ones ancestors; there are some who believe that



medicine is more of a religious rite than a science, and that faith on the part of the patient is a more important factor in the cure of disease than the skill and judgment of the physician. The great majority of people seek no information about the qualifications of the physicians they employ. The recommendations of a relative, a neighbor or a friend has more influence with them than any documentary evidence of scholastic or scientific attainment.

If one says to his friend, during a dry spell, "It will rain tomorrow," the friend replies, "I hope you are right." He grants your right to an opinion but implies that you know nothing about it. That is something like the attitude of the people towards medicine. They have heard so many different theories of disease that have proved fallacious, they have read of so many cures for diseases that ultimately failed, they have come to regard medical knowledge as a sort of guess work in which one man's guess is as good as another.

If one says to his friend, "It is snowing in Chicago," that is a statement of possible fact and he asks, "How do you know?" If you can give a satisfactory source of information he accepts your statement as true. That is the attitude toward medicine it is hoped to create in the minds of the laity. When we have told them some of the facts that are known about disease, and we should tell them nothing but facts; when we have shown them how these facts have been learned, we shall have secured their confidence. When we shall have shown them that every progressive step in the diagnosis and treatment of disease has resulted from the study and investigation of men trained in scientific medicine, we will have accomplished more toward the extinction of the cults than can be accomplished by any concerted effort to legislate them out of existence.

It is proposed that the matter which is distributed by the Bureau of Public Relations will be prepared with that definite objective in view. To tell the people what a serious disease diabetes is, to attempt to tell them how to diagnose it, how to arrange their diet and how and when to take insulin,

will do neither them nor the medical profession any good and will probably lead to disastrous results. To explain to them in simple language the physiology of carbohydrate metabolism, the nature and cause of the dysfunction generally recognized as diabetes, the relation of insulin to the changes occurring; to explain to them that a proper diet can only be arranged after tests have been made to determine the sugar tolerance, the per cent of blood sugar and the amount of sugar in the urine; and explain to them that insulin is not a cure for the disease, but how it acts to save the lives of those afflicted with diabetes; will make a story that will interest them, will so impress them that they are not likely to call in a chiropractor to stretch their spines or pull their legs, if they think they may have diabetes. One who can write a story of that kind, in language the laymen will understand, eliminating theories and embellishment of facts, will be a desirable and a valuable contributor to the resources of the Bureau.

#### PATERNALISM ?

Criticisms of the growing tendency toward paternalism in our government's activities are made from a variety of viewpoints, and are based upon the reactions of the different groups of those affected, in one way or another, by the regulations necessary for the proper administration of these paternalistic measures.

Government paternalism lacks the most important features of the relationship between father and son, from its supposed resemblance to which it derived its name. It is an entirely impersonal relationship in which there is neither affection, sympathy or solicitude. The government's benefits are awarded according to fixed standards and its mandates are inflexible, none of its citizens is an individual but one of a group, or one of a mass, for whom certain regulations are made—only in the violation of law does one acquire an individuality.

Whatever motive activates the effort and for whatever purpose these paternalistic measures are promoted they are largely lost sight of in the multiplicity of regulations and forms required for administration of

the measures. The paternalism now manifested by the government toward its war veterans is the expression of a commendable public sentiment, but the government can have no sentiment, its regulations must be based upon arbitrary standards from from which those who administer these regulations may not deviate. Because of the inflexibility of the regulations some of those who are in the greatest need are excluded, delayed or inadequately rated. Such results are unavoidable in the nature of things. Recently a ruling was made for the treatment of diabetics in certain of the Veteran's Bureau hospitals where special facilities have been provided; under certain circumstances these cases might be treated at dispensaries; where the patient was unable to report regularly at a dispensary, arrangements would be made with a physician qualified to treat such cases and insulin would be supplied from the government's stock. That is a supply of insulin for one month would be furnished. When this supply **had been exhausted**, application for another month's supply must be made to the base. A strict interpretation of this ruling as it was reported would require that the patient must wait until all his insulin was used before making an application for another supply. The probability is that by the time such a patient had secured the necessary blank forms and his application had passed through the required channels, been approved and the order filled, he will not need it.

It is not impossible that the arbitrary standards and the regulations themselves might be adjusted so that there will be less opportunity for miscarriage of the purposes of these measures. A conference of representatives from the various groups affected should result in a simple and practical solution of some of these problems. This plan would seem particularly desirable in connection with the enforcement of the narcotic laws.

In the enforcement of the Harrison Narcotic Act the Government has assumed a sort of mandatory paternalism toward practitioners of medicine. It says to them in effect: "Use your own judgment in the ad-

ministration of narcotics to your patients, but be sure they are your patients according to standards our agents will fix from time to time, be sure none of them is an addict, be sure not to leave too large a supply so that any quantity remaining may not be used for addiction, be sure to keep a careful record so that our agents, who are not doctors, may examine them and determine whether your judgment has been sound or not." The amount of narcotics administered and prescribed by practitioners of medicine is an insignificant proportion of the total amount consumed in this country. The little stream attracts much attention and causes much worry although its inflow makes a barely perceptible ripple in the great river.

Along the line of government activities that have been classed as paternalistic may be found the provisions of the Maternity and Infancy Act. A report has recently been sent out with certain recommendations that in themselves suggest some very pertinent questions. The preventive program suggested by the report is outlined as follows:

- (1) Regulation of the practice of obstetrics, by requiring a license to practice from both physicians and midwives, by establishing minimum requirements for obtaining such a license, and by defining and prescribing penalties for malpractice.

- (2) Regulation of public and private hospitals and maternity homes through legal provisions governing the establishment of such institutions and requiring that they be licensed and subject to inspection.

- (3) Legislation for the control of venereal diseases including the making of these diseases reportable.

- (4) Requiring that puerperal septicemia be made reportable, as is now the case in a number of States.

- (5) Provision through Governmental or public sources of better facilities for training medical and nursing personnel and more adequate clinics, hospitals, and maternity homes.

- (6) Subsidies in aid of State or local activities by Federal or State governments, as in the United States during the past four years through the Maternity and Infancy Act.

- (7) Educational work directed toward informing mothers of the need of adequate maternity care.



Does the first recommendation mean that registered physicians are to be licensed to practice obstetrics, if so by whom? Are hospitals to be regulated and inspected by the Children's Bureau of the Department of Labor? In regard to the sixth recommendation one can only ask, what for?

#### WHOSE BACK YARD?

The following item appeared in the American Daily a few days ago:

"The Immigration Board of Review of the Department of Labor on August 30, ordered the deportation from this country to Italy of a young Italian recently landed in the United States on the ground that he is likely to become a public charge.

According to the Labor Department, when the alien arrived at Ellis Island, he said he was a tailor and was destined to his father residing in Newark, N. J. Shortly after his arrival he became an inmate of the Newark City Hospital.

Further records disclose that the father was unable to pay for the expenses of his boy's illness where the case was diagnosed as pulmonary tuberculosis.

A hearing was granted the alien August 17 at Ellis Island."

The American people are hunting all over the world for burdens of that kind. Is it possible that they are not so attractive when found in their own yards?

From 1919 to 1924 the Near-East Relief spent \$93,969,291.58 and during the fiscal year ending June 30, 1924, the Red Cross spent abroad \$12,824,433. How many more millions were spent in foreign relief by the various missions and church societies one can surmise.

One naturally wonders why a few hundreds out of these millions of dollars that are being sent to foreign lands might not be diverted to the care of this foreigner in our own land, where he can be near his father.

#### PROPOSED AMENDMENT TO THE HARRISON NARCOTIC ACT

It is suggested that every member of the Society read this bill carefully, but particularly, Section 3. After having read it carefully, if you make no protest you cannot then blame your senators and representatives if it is passed.

S. B. 4085

69th Congress  
1st Session.

Introduced in the Senate of the United States, April 19, 1926 (Calendar Day April 24, 1926.)

Mr. Smoot introduced the following bill which was read and referred to the Committee on Finance.

A Bill to strengthen the Harrison Narcotic Act of December 17, 1914, as amended, and for other purposes.

Be it enacted by the Senate and House of Representatives of the U. S. of A. in Congress assembled, That the Harrison Narcotic Act of December 17, 1914, as amended be further amended as follows:

Section 1. Strike out the period at the end of the fourth paragraph of Section 1, substitute a colon, and add the following: "Provided, that any person addicted to the habitual use of opium or coca leaves, or any compound, manufacture, salt, derivative, or preparation thereof, when such use is not in the course of professional practice only, shall not be allowed to register under this Act; AND PROVIDED FURTHER, That in addition to any penalty which may be imposed under Section 9 hereof, any person hereafter convicted of a violation of this act shall not be granted registration under this act for a period of one year from the 1st day of July next following the date of such conviction."

Section 2. "That the second clause of the twelfth paragraph of section 1 be changed to read as follows: "and the absence of appropriate tax-paid stamps from any of the aforesaid drugs shall be prima facie evidence of a violation of this section in the judicial district where such drugs are found by the person in whose possession the same may be found."

Section 3. Section 2, subsection (a) is hereby amended to read as follows: "To the dispensing or distribution of any of the aforesaid drugs to a patient by a physician, dentist or veterinary surgeon registered under this act in the course of his professional practice only; PROVIDED, That no dispensing or distribution of the aforesaid drugs pursuant to the so-called ambulatory treatment for narcotic drug addiction shall be construed to be in the course of his professional practice only; PROVIDED That such physician, dentist or veterinary surgeon shall keep a record of all such drugs dispensed or distributed, showing the amount dispensed or distributed, the date, and the name and address of the patient to whom

such drugs are dispensed or distributed, except such as may be dispensed or distributed in emergency cases only; and such record shall be kept for a period of two years from the date of dispensing or distributing such drugs, subject to inspection, as provided in this act."

Section 4. Section 2, subsection (b) is hereby amended by inserting the following proviso after the first clause and before the first proviso thereof: "Provided, That such drugs shall not be sold, dispensed or distributed under circumstances from which the dealer might reasonably deduct that the prescription was not issued by the physician, dentist or veterinary in the course of his professional practice only:

Section 5. The first sentence of the 2nd proviso of Section 6 is hereby amended to read as follows: "PROVIDED FURTHER, That any manufacturer, producer, compounder, vendor (including dispensing physicians) of the preparations and remedies mentioned in this section shall keep a record of all purchases, sales exchanged or gifts of such preparations or remedies in such manner as the Commissioner of Internal Revenue with the approval of the Secretary of the Treasury, shall direct."

Section 6. That the enforcement of the Act of Congress of December 17, 1914, known as the Harrison Act, as amended, the provisions of Section 3450 of the revised Statutes shall apply, in so far as they are in any wise applicable thereto, and the said provisions of said section are hereby reenacted for that purposes.

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### CHIPS

The 1925 death rate of infants in twenty-eight states, is reported to be higher than it was in 1924.

The aedos Egypti, the mosquito which is the cause of yellow fever, proves to be the carrier of dengue fever.

Maternity mortality, we are told, is greater in the United States than in any other civilized country in the world, except Chile.

A barber shop is now called a cheroton-sorium. This accounts for the change in price being charged.

Biostern is the name given to vitamin A since it has been isolated, recognized, analyzed and classified. It was found gadding around in a blend of codliver oil, spinach and sea weed.

The function of the gall-bladder has been found to be more than a reservoir for the bile, viz., that of a concentrator, dehydrator.

The average secretion of the normal man's liver is about two quarts of bile in twenty-four hours. The capacity of the gall-bladder is about two ounces. The concentrated bile in the gall-bladder may be ten times greater than the bile secreted from the liver. This concentrated bile is said to be a much better cholagogue than the bile direct from the liver, because of the excess bile salts it contains.

Such being the case it would appear that conservation of the gall-bladder in cholecystitis by drainage is preferable to its removal, although in one of the Mayo books the statement is made, "that surgical drainage of the gall-bladder destroys its function." The statement may be a fact but it does not appear to be the consensus of the profession.—(The Prodigal.)

Descartes said that "I never accept anything for true which I did not clearly know to be such." If the doctor, in his practice, acted upon such evidence he would give placebos to a big per cent of his patients. And who knows?

"Scientific proficiency, in a medical man, to attain commercial value, must be supplemented by the same business sagacity, the same fundamental principles of success, which gain ascendancy in other callings."—Brierly of Glasco, Kansas.

Tricane is a new anaesthetic discovered by Dr. Maurice Sandoz of the University of Lausanne, Switzerland. The composition of the drug is not given but the claim is made that it is an efficient, rapid anaesthetic with a minimum of danger. As yet there is no anaesthetic known but what will cause shock when anaesthesia is produced. Soporifics act, probably in the same way, although in remote antiquity we read, (Genesis second chapter and twenty-first verse), "And the Lord God caused a deep sleep to fall upon Adam, and he slept, and he (God) took one of his (Adam's) ribs, and closed up the flesh instead thereof." However the formula of the soporific is not given and like many of the other secrets of nature it is left for the scientist to discover.

"When sick don't quit work and keep on eating but quit eating and keep on working."

A phantom leg is one that has been removed and yet at times the subject ex-



periences pain where the leg ought to be but is not.

Freezing the diseased part by carbonic acid snow is recommended for the cure of leprosy.

The American Public Health Association will hold its annual meeting in Buffalo, N. Y., October 11 to 14. The announcement states that milk pasteurization and control, ventilation, measles, rural hygiene and pollution of boundary waters are some of the subjects that will receive particular attention. The program this year will be an unusually large one. There will be special sessions on mental hygiene, teaching of health in colleges, and two half-days will be devoted to the subject of providing a safe milk supply. One hundred and forty speakers are listed on the program.

Cod liver oil, long recognized as having antirachitic potencies, has been heralded as a veritable specific, alike for the prevention and the cure of rickets. Under the unfeigned encouragement of the medical profession, child welfare agencies everywhere have preached the doctrine of the liberal administration of cod liver oil in infancy. The public has been informed through numerous channels, including even the legitimate advertising and the sales promoting of manufacturers. In consideration of the protests against the indiscriminate administration of iodine in the prophylaxis of goiter, it may be asked to what extent the promotion of the use of cod liver oil in infancy is on a basis that is defensible from every standpoint. Is it effective? Does it involve possibilities of unsuspected harm? Is it worth while? Should it be modified in any way? Evidence is already available that the highest expectations are not consistently realized. However, the unqualified success obtained with cod liver oil under carefully controlled conditions of many clinicians should give assurance of the wisdom of its inclusion in prophylaxis. What is needed above all at present, is a better understanding of how rickets may be averted in the home as well as in the well ordered clinic.—*Jour. A. M. A.*, June 19, '26.

During the excessive enthusiasm a few years ago for the then newly discovered vitamins and the exalted hope of great physiologic accomplishment through their administration in a therapeutic or prophylactic way, these food factors—notably the vitamin B of yeast—were often expected to “pep up” the jaded person. Somehow it was

assumed that the vitamin must “stimulate” one function or another. The actual investigations have, however, been disappointing in some ways. Secretion has not as yet been discovered to be stimulated or “pepped up” in any way. It has been demonstrated that deprivation of vitamin B does not of itself lower the basal metabolism, nor is the latter altered by large doses of vitamin-bearing products. So far as the basal heat production is a measure of “vitality,” it has been shown that the ingestion of amounts of vitamin B in large excess over the minimum requirements for growth and continued well being does not benefit an animal.—*Jour. A. M. A.*

The isolation of a crystalline protein with tuberculin activity has been reported. The crystallized product elicits the characteristic skin reaction in tuberculous subjects. Chemically, it is shown that wherever the activity is lost, following enzyme treatment, there occurs also a corresponding reduction in whole protein, with an increase in proteose and residual nitrogen.—*Jour. A. M. A.*, Aug. 7, '26.

The Council on Pharmacy and Chemistry publishes an appreciation of John Howland. By the death of John Howland, the Council has sustained a great loss; for he was a member whose devoted services were much valued and whose contributions to the scientific progress of medicine have been outstanding. The members of the Council mourn the loss of their colleague, and point to his services as an inspiration for all.—*Jour. A. M. A.*, Aug. 14, '26.

Violet ray and quartz light therapy have not been scientifically established as of great value for conditions of the nose and throat, as compared with the generally accepted medical treatment. With every new type of treatment, especially along the line of mechanical or physiotherapy, some investigators become overenthusiastic and report glowing results. As time elapses, it is found that most of these measures give some relief to a small percentage of patients but fail entirely in many others.—*Jour. A. M. A.*, Aug. 21, '26.

From time to time M. Spahlinger has given out enthusiastic reports from his Geneva Hospital. Because of the favorable newspaper comment, more particularly in England, concerning this product a report was made on it by the Science Committee of the British Medical Association. In the statement of this committee, published last

spring, the history of the preparation was summarized and the committee strongly emphasized that it cannot endorse "this or any new method until after a full and independent test." The committee concluded that the remedy is secret and that the exact methods of preparation have never been fully published; and further, that no investigations carried out under strict experimental conditions which afford direct and convincing evidence of curative action have been published.—(Jour. A. M. A., Aug. 28, '26.)

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## KANSAS MEDICAL LABORATORY ASSOCIATION

Tissue Pathology  
H. R. WAHL, M. D.

The correct interpretation of changes in tissue requires years of experience and is the most difficult of the laboratory diagnostic methods to acquire. The histological examination of tissues removed at operation is fully as important, and often equally as conclusive as that removed at the post-mortem room. In each case it represents the final check on the clinical interpretation. Such an examination, however, should be in the hands of a physician of broad medical training, who can correlate the clinical history with the pathological findings, and give the proper interpretation to his medical confreres. One can hardly expect a physician or a surgeon to have much respect for the report of a bacteriological or chemical technician on tissue examinations such as is often done now. Grievous mistakes are often made by these persons even with the best of intentions, and result in casting an unjust odium on tissue diagnosis in general when the fault lies in the lack of experience of the examiner.

While an expert pathologist is not available in every town, there should be at least one doctor in each community specially interested in tissue pathology, and he could easily place the material in ten per cent formalin and send it with a brief history to a competent pathologist. Such material sent to the Department of Pathology of the Medical School at Kansas City, Kansas, will receive immediate attention and a report will be submitted within a week.

There is some difference of opinion regarding the value of the rapid diagnosis of tissues by means of the frozen section method. This method "smacks somewhat of the spectacular," and tends to substitute speed for careful scientific accuracy. In

the hands of experts it may be satisfactory but I feel it to be very unsafe in the hands of those who are not accustomed to the study of pathological tissues. Personally, I differ from many pathologists in this matter. I do not feel safe with slides made by the frozen section method, and have repeatedly seen mistakes made by its use. I do not feel that the frozen section method gives very much more reliable information than the gross appearance in the hands of a first class surgeon who knows gross pathology. The paraffine method can be speeded up so that a report can be made in twenty-four hours and it is a rare case that cannot wait that long.

[There was a demonstration and discussion of a number of gross specimens illustrating the various angles in tissue pathology, such as a liver from a case of hemachromatosis in a man clinically supposed to have a peculiar type of cirrhosis; actinomycosis of liver, spleen, and lungs in a man who had an unusual pulmonary lesion. In this case the autopsy showed the primary lesion to be in the hepatic flexure of the colon with extension through the liver to the spleen, and finally into the lungs, and it was only the last lesion that attracted the clinician's attention. Another specimen was that of a typical tubercular kidney taken from a man with a somewhat puzzling renal history. Its removal was followed by a rapid recovery after months of illness. A good example of hydatid cysts of the liver was shown. This was taken from a young man who was thought to have a malignant disease, a diagnosis that remained after an exploratory laparotomy, at which time a sarcoma was diagnosed. The autopsy revealed the parasitic nature of the lesions.

Another interesting specimen shown was that of two breasts removed primarily for advanced cancer, a radical operation being performed upon each. Neither showed any malignancy on microscopic examination, the process being inflammatory in character, a mistake due to the surgeon's deficiency in his knowledge of surgical pathology and in his failure to check this with a biopsy examination. One of the most interesting specimens was a carcinoma occurring in a retrosternal thyroid showing a large mass extending down the inside of the superior vena cava. This occurred in a man who was demonstrated as a case of aortic aneurysm in which the Wassermann and past history was persistently negative for syphilis. An unusually large spleen was also shown, and was particularly interesting because of large deposits of a rusty character through-



out the substance, which on chemical examination were found to consist of iron pigment. An unusual large hyperplastic appendicitis was shown, the specimen measuring 2 to 3 centimeters in diameter. The last specimen was a sarcoma of the abdominal wall. It was a lobulated, partly encapsulated mass, which on examination showed in most places a fibromatous structure, but there was one nodule in this mass, 2 centimeters in diameter, that was very different, being soft and cellular in consistency, with a homogenous structure, and showing under the microscope many rapidly growing spindle-shaped cells. This case illustrates the care needed in selecting areas for microscopic examination because almost all areas appeared benign with the exception of this one small nodule. This showed the typical picture of a spindle-shaped sarcoma.]

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### Alumni Night at the Kansas City Fall Clinics

The Kansas City Annual Fall Clinical Conference will convene at the Hotel President, Kansas City, Mo., October 11, 12, 13, 14 and 15, 1926. Wednesday evening, October 13th, has been set aside as "alumni night" and the dinners of the various schools will be held at the Hotel President, 14th and Baltimore, at 7:00 p. m. The following medical schools will hold banquets at that time:

University Medical College.  
 University of Kansas School of Medicine.  
 University of Louisville School of Medicine.  
 Washington University School of Medicine.  
 St. Louis University School of Medicine.  
 Northwestern University Medical School.  
 Rush Medical College.  
 University of Pennsylvania School of Medicine.  
 Jefferson Medical College.  
 Medical School of Harvard University.  
 Columbia University College of Physicians and Surgeons.  
 Johns Hopkins University Medical Department.  
 University of Michigan Medical School.  
 Creighton University College of Medicine.  
 Tulane University of Louisiana School of Medicine.  
 University of Colorado School of Medicine.  
 University of Illinois College of Medicine.  
 University of Nebraska College of Medicine.

University of Virginia Department of Medicine.

Medical College of Virginia.

University of Oklahoma School of Medicine.

Yale University School of Medicine.

University of Arkansas Medical Department.

University of California Medical School.

University of Alabama School of Medicine.

University of Georgia Medical Department.

Indiana University School of Medicine.

State University of Iowa College of Medicine.

University of Maryland School of Medicine and College of Physicians and Surgeons.

University of Minnesota Medical School.

University of Mississippi School of Medicine.

University and Bellevue Hospital Medical College.

Cornell University Medical College.

Kansas City Homeopathic Medical College.

Western Reserve University School of Medicine.

Vanderbilt University School of Medicine.

University of Tennessee College of Medicine.

University of Texas Department of Medicine.

Baylor University College of Medicine.

Ohio State University College of Medicine.

\*Ensworth-Central-Northwestern Medical College.

Full information may be obtained by addressing Dr. H. S. Major, 3100 Euclid avenue, Kansas City, Mo.

\*This dinner will be held in St. Joseph upon special invitation of Dr. Chas. Geiger, president of this Association.

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### Series of Chartered Diploma Mills

There are well known instances of series of diploma mills being conducted by the same individual or group. Between 1888 and 1892 a series of six diploma mills was chartered in Illinois by one Johann Malok, all of which contained the word "German" in their titles. These appear to have been forced out of business through the withdrawal of recognition by the Illinois State Board of Health and the prompt report of such action to other state boards. A second series of four diploma mills was chartered,

also in Illinois, between 1889 and 1900 by a group headed by one "J. Armstrong, M. D." As the charter of each institution was revoked, the group continued their barter in diplomas under a new title. The series was brought to a prompt termination when Armstrong was convicted and sentenced to a long term of imprisonment. The charter of the infamous Oriental University, which had its headquarters at Washington, D. C., was revoked in December, 1923. Immediately thereafter the "business" was transferred to a newly chartered "Cosmopolitan University," located at Poplars, Md. This beginning of another series of diploma mills also was checked in January, 1926, when the president of the mill, "Bishop H. P. Holler," was fined \$1,000 and sentenced to two years in prison. Three years ago, two medical schools in Missouri were exposed as being engaged in the sale of medical degrees. The charter of one of these, the Kansas City College of Medicine and Surgery, was revoked, June 23, 1926. Information just received states that an "American Medical University" was chartered in Missouri, July 29, 1926, and was opened for business, August 9, 1926. It professes to teach the eclectic system of medicine and gives the same address as that of the Kansas City College of Medicine and Surgery. Of the four persons named as its incorporators, two hold diplomas from the Kansas City College of Medicine and Surgery. It appears, therefore, that another chain of diploma mills has been started in Kansas City, the common characteristic of which will be the teaching of eclectic medicine. The reason for this is that easy access to medical licensure is available through the Arkansas Board of Eclectic Medical Examiners. It is expected that the charter of the other Missouri diploma mill, the St. Louis College of Physicians and Surgeons, will also be revoked, and a report says that this school also intends to reopen under a new charter, probably also as an "eclectic" institution. The progress of the one and possibly two new medical schools in Missouri, therefore, will be watched with much interest. To check the sale of fraudulent diplomas requires more drastic action than merely the revoking of a charter. This particular case, also, shows how much easier it has been to secure a new charter than it was to have the former one revoked. Is this not a good occasion for Missouri to establish regulations governing the issuing of charters of educational institutions? Certainly Missouri does not desire to remain the headquarters of the

traffic in fraudulent medical diplomas.—  
Journal A. M. A., Aug. 21, '26.

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## DEATHS

Dr. Oliver Andrew Menges, National Military Home, Leavenworth, Kansas; aged 49; died August 9, 1926, of septicemia. He was a graduate of the Baltimore Medical College in 1908.

Dr. Herman Phillip, Wichita, Kansas, died March 23, 1926, aged 63, at Rochester, Minn., of adenoma of the thyroid gland. He was a graduate of the University of Berlin, Germany, 1886.

Dr. Lester I. Simpson died suddenly September 1, 1926, at his home in Moran, Kansas, at the age of 41 years. He was a graduate of the University of Kansas School of Medicine in 1907 and a member of the Kansas Medical Society. He served eleven months overseas in the World War as Captain in the Medical Corps.

Dr. William B. Goddard, aged 37, died at his home in Topeka, August 31, 1926, of spinal meningitis after a very short illness. He graduated from Vanderbilt University in 1916. Dr. Goddard served overseas in the World War and at the time of his death was a member of the Kansas Medical Society.

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## MEDICAL SCHOOL NOTES

Dr. Don Carlos Peete has recently been appointed on the Medical Staff of the Bell Memorial Hospital as Assistant in Dispensary.

Dr. Hiram Newton has accepted a position with Dr. R. L. Sutton, Kansas City, Mo.

Dr. T. G. Dillon has been appointed Anesthetist for the Bell Memorial Hospital.

Dr. Russell Hobbs has been appointed on the Medical Staff of the Bell Memorial Hospital as Assistant in Dispensary.

Dr. Crozier S. Hart will be located at the Dawson Hospital, Dawson, New Mexico.

Dr. F. C. Helwig is spending a six-weeks' vacation in Germany and Austria.

Dr. A. E. Hertzler read a paper on Painful Infection of the Feet, at the recent meeting of the Kansas City Clinical Society, August 10.

Dr. Harold Palmer, '25, has been ap-



pointed Assistant Resident in Medicine at the Cleveland City Hospital, Cleveland, Ohio. Dr. Palmer was a recent visitor at the Medical School.

— R —

## BOOKS

The Medical Clinics of North America (Issued serially, one number every other month). Volume X, Number 1, (Philadelphia Number, July, 1926). Octavo of 260 pages with 24 illustrations. Per Clinic year, July, 1926, to May, 1927, Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders company.

One is first impressed by the very practical type of the clinics presented in this number of the clinics. McCrea presents a carcinoma of the bronchus and a hemiplegia. Norris and Farley present some interesting cases of abscess of the lung. Perry Pepper illustrates with case histories the importance of onset symptoms. Strecker presents some cases of paresis without syphilis. Keen discusses the causes of failure in the treatment of hay-fever. Bales talks about salvarsan poisoning. Talley describes a case of pyopneumothorax. Chevalier Jackson's bronchoscopic clinic is very interesting. Walforth describes the treatment of cardiac rates and rhythms and Mohler discusses the significance of precordial pain. Arnett has a clinic on cardio vascular syphilis. While these are subjects taken at random they will suggest the eminently practical value of this book.

The treatment of Fractures: With notes upon a few common dislocations. By Charles L. Scudder, M. D., consulting surgeon to the Mass. General Hospital, formerly assistant professor of surgery at the Harvard Medical school. Tenth edition, revised. Octavo volume of 1240 pages, with 2027 illustrations. Philadelphia and London: W. B. Saunders company, 1926. Polished Buckram, \$12.00 net.

In this edition, both the non-operative and the operative methods of treating fractures are fully described. The author stresses the importance of having an x-ray record of the injured part made immediately after the injury. He also urges that in every doubtful and difficult case a consultant should be employed. A record of salient facts should be kept checking the progress of the case. The importance of these suggestions has already been impressed upon some of our members who have had to fight suits for damages. From some of the opinions recently handed down by the court in such cases one may safely draw the inference that if he attempts to treat fractures he should have at his com-

mand the most recent and most authoritative text book to be had.

Birth Control and the State, by C. P. Blacker. Published by E. P. Dutton & Co., New York City, N. Y.

This is a short discussion of the arguments for and against birth control and a review of the various methods in common, all of which as he states, are either injurious, unsatisfactory or unreliable.

Clinical Pediatrics. By John Lovett Morse, M. D., Professor of Pediatrics, Emeritus, Harvard Medical school; consulting physician at the Children's, Infants' and Floating Hospitals, Boston. Philadelphia and London: W. B. Saunders company, 1926. Cloth, \$9.00 net.

The author has laid special stress on methods of physical examination. He has limited himself to the subjects he is most familiar with and has omitted some because he has had no practical experience with them. While such a statement by the author seems unnecessarily frank it bespeaks for him the confidence of the reader. It is safe to say however, that this book contains so much of interest and value that the omissions will not be particularly noted and one will readily concede a considerably wide experience to the author.

Cannula Implants with review of implantation technics in Esthetic Surgery by Charles Conrad Miller, M. D. 178 pages, 11 illustrations, price \$2.00. Published by the Oak Press, 358 W. Madison St., Chicago, Ill.

The author describes a method of implantation with the aid of cannulae, thus avoiding open incisions. He reviews the other methods that have been adopted and suggests the objectionable features. The various materials that may be used and the necessary technique are also described.

Hay-Fever and Asthma by Ray M. Balyeat, A. M., M. D. Illustrated. Published by F. A. Davis Co., Philadelphia, Pa.

The purpose of this book seems particularly to instruct those suffering from hay-fever and asthma, how they may determine and avoid the cause of their difficulties. A quite extensive discussion of the distribution and dates of pollination of plants will interest the physician as well as the patient.

Elements of Pathology by Allen G. Ellis, M. D. Published by P. Blakiston's Son & Co., Philadelphia.

The author has endeavored to limit his discussion to the elementary principles of pathology and to explain them. The relation of pathology to the problems of internal medicine and surgery has been con-

sidered. The second part of the book takes up post-mortem technic, pathologic anatomy and histology.

The Surgical Clinics of North America (Issued serially, one number every other month). Volume VI, Number III, (Lahey Clinic Number, June, 1926). 214 pages with 54 illustrations. Per Clinic year (February, 1926, to December, 1926), Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders company.

Clute and Mason describe the management of patients before operation for hyperthyroidism. Sise has an article on spinal anesthesia. Jordan and Lahey have a clinic on diverticula of the alimentary tract. Mason also gives a very instructive talk on the physiologic aspects of post operative treatment and Lahey describes the management of gastric and duodenal ulcer and several other subjects of equal importance. One very important discussion in this number of the Clinics is on the chronic cardiac as a surgical risk by Hamilton. Greene presents a series of esophageal cases with illustrations. This number will be appreciated by every practitioner, whether a surgeon or not.

The Modern Treatment of Hemorrhoids by Joseph Franklin Montague, M. D., of the Rectal Clinic, University and Bellevue Hospital Medical College. Published by I. B. Lippincott Co., Philadelphia.

The author suggests that text-book opinions on the treatment of hemorrhoids are archaic and current literature articles are radical if not actually fanatical. He attempts to give a digest on modern views on the subject. He stresses the importance of careful consideration of the pathology of hemorrhoids. The author describes in detail the methods of treatment. He has had good success with injection treatment and highly recommends it in suitable cases.

Gould's Medical Dictionary, edited by R. J. E. Scott, M. D., editor of numerous medical publications. Published by P. Blakiston's Son & Co., Philadelphia.

Gould's first medical dictionary was published in 1890 and he soon became known as the Medical Lexicographer of America. On account of the wholesale coining of words in medicine and the careless use of those already in existence the compilation of a serviceable dictionary is considerable of an undertaking. One of the most unfortunate situations is the rapid increase of eponymic terms. However it does emphasize the constant need for a medical dictionary and Gould's has one convenient advantage in that all these terms are placed

in their proper alphabetic order and are easy to find. This dictionary is as nearly up to date as it is possible to be.

The Diabetic Life, its control by diet and insulin, by R. D. Lawrence, M. D. Second edition. Published by P. Blakiston's Son & Co., Philadelphia.

Some slight changes have been made to bring it up to date. Since it is of great importance that the diabetic patient should be as fully informed as possible concerning his condition and the necessary observance of a regulated diet, a book of this kind should be appreciated by the profession.

Medical Gymnastics and Massage in General Practice, by Doctor J. Arvedson, Stockholm, translated by Mina L. Dobbie, M. D. Second edition. Published by P. Blakiston's Son & Co., Philadelphia, Pa.

Arvedson's book has been recognized as a standard text on this subject. Detail descriptions of remedial measures are omitted, though the conditions amenable to this kind of treatment are described. A number of conditions are described in which certain kinds of exercises are suggested.

Goiter and Other Diseases of the Thyroid Gland, by Arnold S. Jackson, M. D., of the Jackson Clinic, Madison, Wisconsin. Quarto extra cloth, about 300 pages, 152 illustrations, including 9 drawings. Price \$10.00 net. Published by Paul B. Hoeber, Inc., 67 E. 59th St., New York City, N. Y.

The author explains that one of the objects of this book "is to break down the old theory that the goitre of youth is merely a physiologic enlargement of the thyroid gland which would in time be spontaneously cured, undoubtedly, many of the goitres which at present require operation might have been cured had it not been for the too prevalent acceptance of this misconception."

This is a very exhaustive treatise on the subject covering all the factors in its etiology, pathology, symptomatology and treatment. It is particularly well illustrated.

————— R —————

As a rule, self made men are not so. They have had lots of help. Those that are, do not fool any one.

————— R —————

## SOCIETIES

### SHAWNEE COUNTY SOCIETY

The Shawnee County Medical Society met at Christ's Hospital on September 7, for the first meeting since adjournment for the summer months. The following program was given:

Fracture of the Base of the Skull Extend-



ing Through the Temporal Bone (Case Report)—F. C. Boggs, M. D.

Primary Anemia, (Case Report)—James G. Stewart, M. D.

Carotid Body Tumor, (Case Report)—Drs. Bowen and Miller.

Adiposo-Genital-Dystrophy, (Case Report)—W. M. Menninger, M. D.

W. B. GODDARD

*Resolution adopted at the meeting of the Shawnee County Medical Society, held at Topeka, Kansas, September 7, 1926.*

When William Bell Goddard first appeared among us less than a year ago, he was a total stranger. It required but a short time, however, to enlist a great host of friends, and as his friends, sympathetic and hopeful, we watched his brief but brilliant career.

His death has disappointed us but never his life. His proficiency, his intellectual keenness, and his skill in the field of dermatology for which he was specially well prepared on a background of careful scientific training, were always apparent. They were an especial satisfaction to those who have the development of medical science in Topeka and Kansas at heart.

The sorrow of his friends and the regrets of his fellow practitioners are the greater because of this. For his own sake we loved him and for the sake of our science and our city we rejoiced in him. None know so well as we how great is our loss in the death of this amiable man and this promising scientist. His happy smile, his earnestness, his genial mood, remain our memories to be cherished in the long, weary and often bitter hours of plodding along a path that he, too, had chosen and which he, too, had helped to carry forward. "Life is short, and the art long . . ."

Therefore, at this first fall meeting of the Shawnee County Medical Society, be it resolved by us as a body assembled, that we take cognizance of our loss, and that we tender to Mrs. Goddard in this solemn moment of her sorrow such comfort as she may find in the assurance that the life of her husband was an inspiration to those who knew him and worked with him, and that his passing grieves us all.

KARL A. MENNINGER

ELVENOR ERNEST

H. A. ALEXANDER.

EARLE G. BROWN, Secretary.

—R—

When a man buys an expensive education it frequently don't fit, but he has to keep on wearing it.

## THERMO-TEX BABY BINDERS

Every new-born baby requires a bandage or binder to hold the navel dressing in place, to prevent rupture and to keep the abdomen warm. The Thermo-Tex Binders fulfill these requirements; they are made of pure wool filling, long staple cotton warp and contain no rubber. They have the elasticity and comfort of the Ace bandage, plus the warmth of wool. The pure wool gives the necessary warmth to the abdomen and, being elastic, the binders conform to the abdominal expansion after feeding. They give the needed support to the navel and prevent rupture. They will not slip and will not hinder respiration. The latter quality is of the utmost importance because the respiration of the new-born is diaphragmatic and a tight and non-elastic binder will make the descent of the abdomen difficult and interfere with breathing. The binders are fastened, not too tight, either with very small safety pins or basted with a needle and thread. The fastening should be done on one side of the front, preferably on the left. Never fasten in the back.

These binders should be washed with soap and hot water and dried on a flat surface without stretching. The elasticity, which is somewhat lost by steady use, is thus entirely restored. It is advisable to have three or more binders, thus permitting a change as often as necessary.

Thermo-Tex Baby Binders come in sets of three and are made in two sizes: 4 inches wide by 22½ inches long and 6 inches wide by 18 inches long. They are made by Becton, Dickinson & Co., Rutherford, N. J.

—R—

## Antitoxin Up to Date

Ever since the discovery of diphtheria antitoxin, biological manufacturers have been endeavoring to overcome certain difficulties associated with its use. One of these, the bulk of the effective dose, has been disposed of by elimination of the water and other non-essential elements, until a product approaching a state of absolute purity has resulted. The best antitoxin, while small in bulk, is sufficiently fluid to ensure prompt absorption and consequently prompt therapeutic effect.

Another difficulty has been that the rubber of the plunger in the syringe packages in which all antitoxins are supplied is very apt to become adherent to the glass barrel of the syringe, and physicians have had no end of trouble in trying to break the adhesions without breaking the syringe.

Parke, Davis & Co., as will be noted by

reference to their advertisement elsewhere in this issue, offer not only a highly concentrated antitoxin with low protein content, but an "improved" syringe package. We understand that the improvement consists principally in an ingenious reduction of the area of contact surface between the plunger and the syringe barrel, so that by giving the piston rod a gentle turn the plunger can be rotated and then, of course, moved forward under steady pressure.

—————R—————

### Upper Respiratory Infection As Cause of Cholera Infantum

Philip C. Jeans and Mark L. Floyd, Iowa City (Journal A. M. A., July 24, 1926), direct attention to mastoiditis and nasal sinusitis as causes of "cholera infantum" and record further evidence, particularly in regard to sinus disease, that these infections are at least a common cause of the clinical picture. There is a relationship between upper respiratory infection and a clinical picture corresponding to what has been described under the term cholera infantum. In recent years all patients presenting this clinical picture who have come under the authors' observation have had either mastoiditis or paranasal sinusitis or both as the apparent underlying cause of their disturbance. The infection seldom is obvious, while the gastro-intestinal symptoms usually are prominent. The establishment of adequate drainage from the site of infection brings about prompt and complete recovery.

—————R—————

### Magnesium Sulphate Intravenously

Lyle G. McNeile and John Vruwink, Los Angeles (Journal A. M. A., July 24, 1926), assert that the intravenous injection of a 10 per cent solution of magnesium sulphate is a valuable adjunct in the treatment of toxemia of pregnancy. It will cause some reduction of blood pressure, reduce edema, increase urinary output, and reduce or control other symptoms. It will control the convulsions of eclampsia in nearly every case, and exercises a favorable influence on the other symptoms of eclampsia. It is a safe procedure. As a prophylactic agent, it will give definite results, the toxic symptoms will frequently disappear entirely, or the condition will be arrested and the patient go on to normal labor. If, on repeated injections, the toxic symptoms recur, pregnancy should be terminated. Regardless of the eventful course of the toxic state, intravenous medication places the patient in a condi-

tion with increased resistance and eliminates the dangers subsequent to convulsions both for the mother and for the baby.

—————R—————

### Friend to Paternalism

The chairman of the Committee on American Citizenship, F. F. Dumont Smith, of Hutchinson, Kan., presented an interesting report at the Denver convention of lawyers. The report was more than frank. It asserted that many distinguished lawyers freely admitted that they were not "up" on the subject of the Constitution, and that it was time to make the law schools do a better job on instruction.

"The Roman citizens," declared the report, "bartered their ancient libraries for bread and circuses. The American citizen today freely barter his individual liberties and rights for government bounties and bonuses. He demands government interference in everything and surrenders freedom and his individuality for it."

Plain talk and true. There was much plain talk at the convention—militant talk with reference to many propositions which heretofore have been given clear right of way and have been referred to, if at all, in awed whisperings by contemporary statesmen so-called. The report continued:

"The old virile spirit is waning to extinction. The American citizen is being pauperized by government alms. If he supports the government he asks the government in return to support him. If prices are too high, instead of doing without, he wants the government to lower them; if they are too low, he wants the government to raise them.

"He wants the government to build his roads, educate his offspring, sanitize him, physic him, bring his children into the world, prescribe his dietary, and tell him what to believe in matters of conscience.

"This tendency, constantly accelerated, is furthered by powerful groups, some of whom have selfish interests at stake, but by many whose leaders are impelled by the loftiest motives and seek them on the grounds of economic or social welfare."

The report declared that these tendencies are replacing representative government with an autocratic bureaucracy.

It asserts that it is apparent that the time is approaching when the states may be reduced to mere geographical expressions, to the rank of counties, when all important powers will be centralized in Washington, "when the bill of rights will become



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E. F. De VILBISS, M. D.,

Superintendent.

Office 917 Rialto Bldg., Kansas City, Mo.

a mere scrap of paper, and this government will come, as all other democracies have come, to a centralized despotism."

This report was not made by politicians, but by lawyers facing conditions that should be known of all men. But as there are lawyers who are not familiar with the Constitution, or are indifferent to its stupendous appeal, so there are a great many citizens who are ignorant and indifferent touching the most vitally important matters of government. If centralization is to increase at Washington, the citizen will have himself to blame. Bread and the circus are poor pay for the loss of liberty.—The Cincinnati Enquirer.

—R—

### Chronic, Nonspecific Infections of Lungs and Bronchi

Chronic, nonspecific, that is, nontuberculous, infection of the lungs and bronchi, in the opinion of John Lovett Morse, Boston (Journal A. M. A., Sept. 4, 1926), are far more common in early life than is generally appreciated. Physicians are likely to forget that there are such conditions and to think, therefore, that all chronic pulmonary

conditions in infancy and childhood are tuberculous in origin. If these non-tuberculous conditions are kept in mind and due attention is paid to the history of their development, their symptomatology and their physical signs, it is usually easy to distinguish them from those due to tuberculosis. Morse discusses chronic bronchitis, bronchiectasis, chronic bronchopneumonia, chronic interstitial pneumonia, abscess of the lung and interlobar empyema. Although these conditions are all uncommon, they can be recognized fairly readily from the history and by a careful physical examination. The roentgen ray is not of much assistance in the diagnosis, except in abscess of the lung and interlobar empyema and in the recognition of deep cavities, when it is invaluable. None of these conditions should be confused with pulmonary tuberculosis, if the difference between them and tuberculosis are kept in mind.

—R—

It is usually a doctor's reputation that makes him great, and it isn't what he knows, but what he can make others think he knows that gets him his reputation.



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# THE JOURNAL

of the

## Kansas Medical Society

Vol. XXVI.

TOPEKA, KANSAS, OCTOBER, 1926

No. 10

### Cancer of the Lip—Report of Twenty-Five Cases Treated With Radium

M. TRUEHEART, M. D., Sterling, Kansas.

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, May 4-6, 1926.

This series of twenty-five cases of cancer of the lip were treated at the Sterling Hospital between August 1922 and January 1925. The time elapsed since treatment is too short to give any final study on the end result, but it was undertaken in order to check up on the progress that we are mak-

ing. Many cancers of the lip not including recurrences. They report recovery in 68.4 per cent of the entire series. Those in which the glands were involved had a recovery rate of only 27.7 per cent. Those in

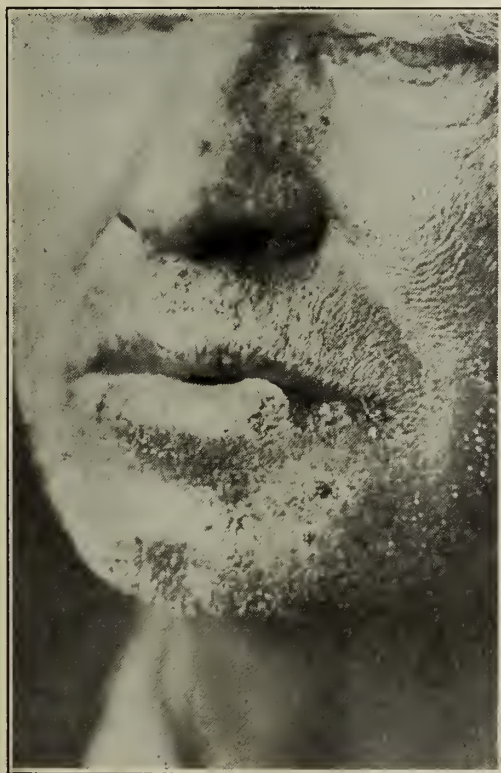


Figure 1A—Cancer of Lower Lip. August 23, 1923.

ing in the treatment of this disease with radium.

Simmonds and Daland in 1922 reported the end results of 103 cases of cancer of the lip that had a radical operation in the Massachusetts General Hospital for pri-

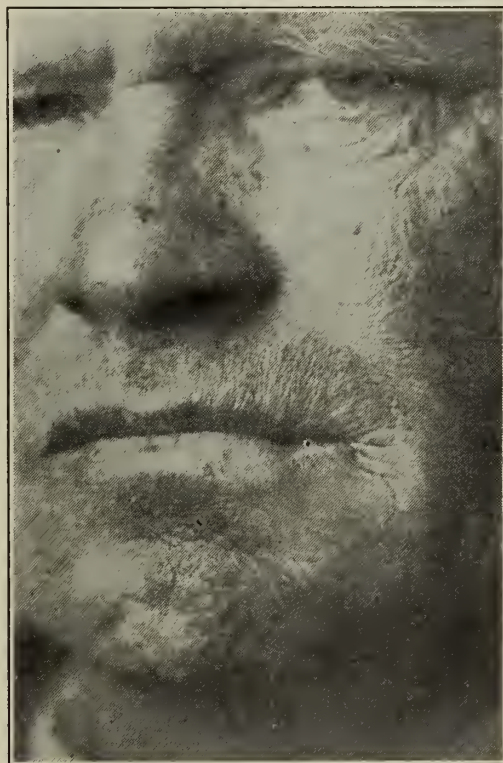


Fig. 1B—Same as 1A. November 6, 1923. After radium.

which the glands on a microscopic examination proved cancer free had a recovery rate of 86 per cent. There was a post-operative mortality of 2.5 per cent.

Lane and Roland at the recent meeting of the American Medical Association in Dallas reported three years statistics on a group of 220 cases of cancer of the lip treated with radium. They divided these into three groups with the following results:

Group I	162 cases	97.6 % well
Group II	57 cases	73.4 % well
Group III	1 case	0 % well

## TECHNIQUE

In the treatment of the cases in our series we used external radiation on the lip, reserving the insertion of the needles for only those cases in which the glands were palpably involved. In the ordinary case with the small lesion on the lip we used four needles on a block 3 c.m. square by  $1\frac{1}{2}$  c.m.

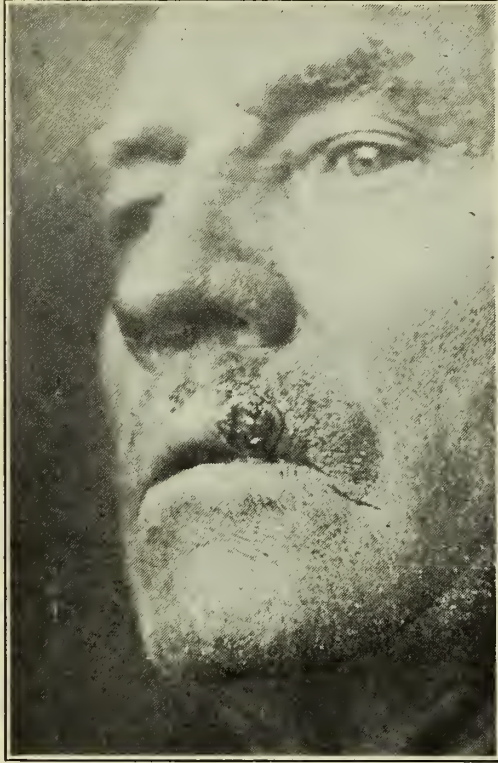


Fig. 2A—Cancer of Upper Lip. November 7, 1924.

thick, and screened with 2 m.m. of lead in the early cases of the series, and with 2 m. m. of copper and one m.m. of aluminum in the later cases of the series. We made up block. We placed one 12 m.g. needle on each of two opposite sides and one 10 m.g. needle on each of the other two sides. For the first treatment we would leave this in place 48 hours. In from ten to fourteen days this produced a marked erythema which subsides in about three weeks. At this time a second treatment of 24 hours is given producing a similar erythema. After the second erythema subsides another 24 hour treatment is given. This is almost invariably sufficient to cause the lesion to heal and no further radium is given unless the glands are involved. In which case we insert 10 m.g. needles and let remain for ten hours. In addition to the radium treatment on the

lip we give an erythema dose of deep x-rays over the gland bearing area of the neck.

The age distribution of the series is as follows:

Age	Under 30	0
	30-39	6
	40-49	3
	50-59	6
	60-69	8
	70 and Over	2
		<hr/> 25

Sex: Twenty-three were in males and two in females.

Lip Involved. The upper lip was involved in two cases. Both of these have remained well. The lower lip was involved in 23 cases. Of these two are dead. Three have recurrences and 18 or 87 per cent are well.

Extent of Involvement. The lip alone was involved in 20 cases. Of these all are alive.

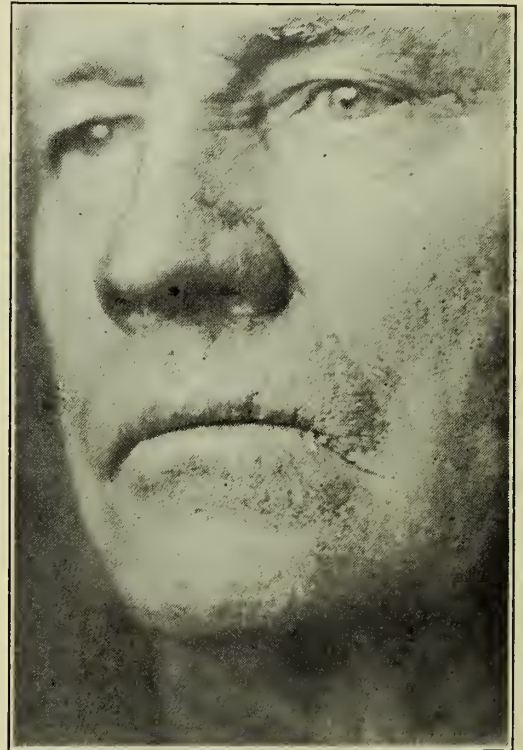


Fig. 2B—Same as 2A. March 4, 1925. After radium.

Two have recurrences and 18 or 90 per cent are well. In five cases there were palpable sub-mammary or sub-mental glands. Of these two are dead. One has a recurrence and is now in a hopeless condition and two or 40 per cent are now well. The extent of previous treatment on the effects of ra-



our applicator by placing the screen on the dium treatment of cancers of the lip are interesting. Five patients had previous operations with recurrences. Of these two are dead. Three or 60 per cent are well. Three have been previously treated with a caustic paste. Of these there was one recurrence and two or 66 per cent have remained well. Two had previous x-ray treatments with recurrences. On one of these radium produced absolutely no curative effect. The other has remained well, giving 50 per cent of those previously treated by x-ray remaining well. There were fifteen patients not previously treated. Of these there were two recurrences and thirteen or 86 per cent remaining well. These primary cases may be further divided into those having and those not having palpable glands in the neck. There were thirteen of those affected not having involvement of the glands. Of these one had

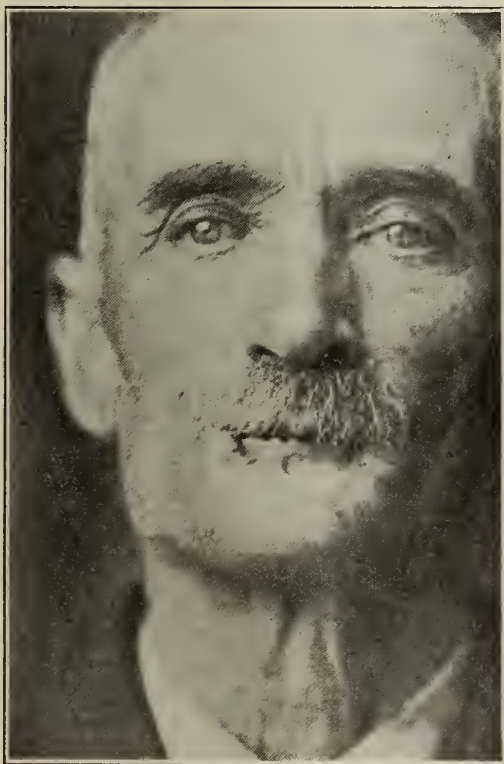


Fig. 3A—Cancer of Lower Lip after treatment with Caustic paste. December 6, 1923.

a recurrence and twelve or 92 per cent remained well. The one that had a recurrence had his lesion six years before treatment was started. Two of the primary radium cases had enlarged glands when first seen. One of these had a recurrence and one is well.

With this small group of cases and the short time since treatment, ranging from three and one-half years to sixteen months, it is impossible to draw any valid conclusion as to the final outcome. But the result so far is such as to give us encouragement to

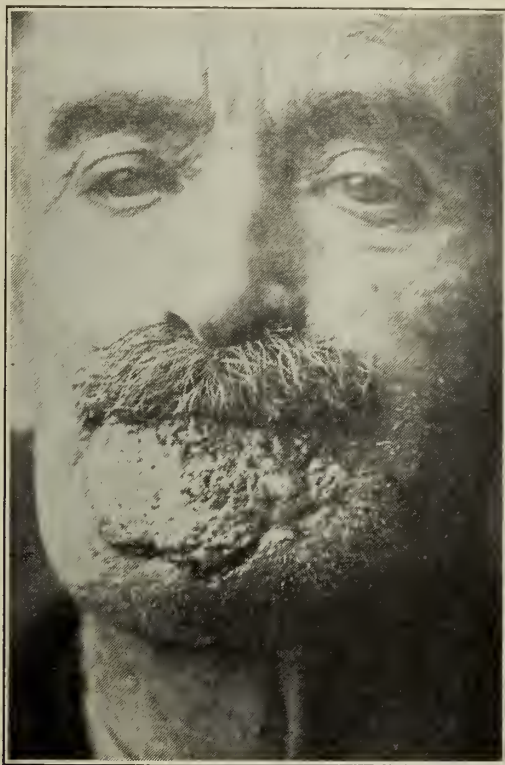


Fig. 3B—Same as 3A. April 23, 1924. After radium.

continue with the radium treatment of cancer of the lip. Especially when we consider that none are yet dead that have not had treatment previous to radium and had no palpable glands at the time treatment was started.

#### CONCLUSION

From our experience with radium in the treatment of cancer of the lip we feel that it offers as good an opportunity for curing this disease as any other method of treatment if used as the primary treatment at the time when the diagnosis can first be made. It has the advantage over other treatments of being able to salvage some of the cases that have been operated on, used paste or x-ray, without cure. I feel that the most important thing is the cure of cancers of the lip or any other organ is an early diagnosis and proper treatment early resorted to.

## Precancerous Dermatoses

S. T. MILLARD, M.D., AND W. B. GODDARD,  
M.D., Topeka, Kansas

Read at the Annual Meeting of the Kansas Medical  
Society at Kansas City, May 4-6, 1926.

Dermatologists for many years, and more recently surgeons, have recognized the importance of the very close relation of the more common cutaneous lesions with malignancy. It is encouraging to know that the profession generally, and to a lesser degree, the public at large, are becoming more enlightened on this fact, as evidenced by a substantial increase in the number of persons applying for advice and aid early in the history of their afflictions. If the ravages of cancer are to be further reduced much yet remains to be accomplished. It is hoped that the utmost efforts of the profession will be exerted, through their clientele, to a full realization of the importance of early recognition of danger in lesions which do not heal in a reasonable time and with ordinary remedies.

Unfortunately the curricula of most medical colleges do not include this important subject and the limited instruction to their licentiate is confined to the overburdened pathologist. Collated literature on the subject is limited and so much research and collateral reading is required to obtain a knowledge of it few find they can spare the time from their diversified and imperative medical literature to grasp the information necessary to an intelligent opinion. Thus too often we are prone to give advice when called upon, and which often proves vicious, or fail to voluntarily call attention to lesions which, while apparently harmless in nature, are in reality potentially dangerous. Bowen<sup>1</sup> states that "various keratoses form the most common cutaneous lesions that become cancerous." The American Association for the Control of Cancer<sup>2</sup>, after much painstaking research and investigation, with almost limitless funds with which to prosecute its problems, arrives at but one conclusion namely—that the hope of further reduction in mortality from cancer rests in early recognition and complete eradication. The importance of recognizing the potential danger attendant upon a benign lesion is further attested by Bloodgood<sup>3</sup> who states that no malignancy which has come under his observation, and from which he was able to secure a complete history, has developed without a benign lesion as a precursor. While the majority of malignancies arising from the benign lesions hereinafter mentioned are not of a vicious character,

destroying life as a result of metastasis and the final involvement of vital viscera, they are at least important as causing deformities, a more or less economic waste and social disenfranchisement. It is also an undisputed fact that those conditions which are the most malignant, however in the minority as to percentage, are best dealt a lethal blow when recognized and treated early.

While the etiology of cancer of the skin is still sub judice we do know that malignancy develops upon keratoses (too often considered harmless) which have been subjected to external irritants. It is a well known fact that a riotous proliferation of cellular structures may be caused by irritation. It is also a patent fact that the most malignant of all tumors arise from the skin. Therefore if lesions which are prone to malignant transition are early recognized and properly treated disaster will often be averted. The number of benign lesions appearing as a fertile field for malignancy is quite extensive and worthy of intelligent consideration.

In this age when mechano-therapy, auto-suggestion and psychopathic deductions are rife the public, through confusion, becomes an easy prey for the quack, and especially in this field, since there are offered unparalleled opportunities for their nefarious practices. Almost every medical society meeting has its paper or discourse on this evil and literature is replete with denunciations of his unfair methods and dishonest procedure, but as yet no constructive program has been evolved for his eradication. It would seem that the fault rested largely with ourselves. It would appear as a first important step we should properly inform ourselves that we might give sound advice and thus prevent, at least, a portion of the public from falling into these unscrupulous hands. We present the following lesions as probable malignant neoplasms for your consideration.

### PIGMENTED MOLES

It has been recognized for years that the most virulent form of malignancy arises from the common, flat, darkly pigmented moles, whether they be congenital or acquired. Bloodgood<sup>4</sup> and Keene<sup>5</sup> have both shown the virulence of their nature and the frequency with which they are encountered. The globular, raised, hairy moles are not prone to malignancy but all non-hairy, deeply pigmented ones are exceptionally dangerous. Clinically these tumors have their origin in the naevi and vary as to the



type of cells, some proven from the endothelium while others are thought to be of mesoblastic origin. Those lesions arising from the epithelial processes are carcinomata; the commonest, and therefore the most important, are those that are derived from the soft naevi and are endotheliomata of lymph vessel origin. The areas of predilection are the face, arms, body, sole of the foot and some times under the nails of the fingers where they give rise to the so-called melanotic whitlows. Metastases involve the skin, viscera and lymph glands and are apt to occur early in the malignant change. The lesions arising from these pigmented moles are nevocarcinomata, melano-carcinomata and melano-sarcomata. An interesting instance of this type of neoplasm came under our service recently—a married woman, 42 years of age, presented a lesion on the dorsal aspect of the right foot, measuring 2 inches in diameter and raised above the skin surface to about the same extent. She gave a history of striking her foot under a rocker on a chair while waiting on her children during the night. She had a small, flat, black mole on her foot since childhood. Two months after she bruised her foot the mole began to increase in size and continued to develop until the dimensions mentioned were reached. This lesion seemed to be definitely attached to the skin alone as it was freely movable. Swift and complete excision was resorted to and followed by massive doses of x-ray. Healing was prompt and the scar was not adherent. Within six weeks after removal she appeared with most vicious metastasis involving the lymphatic system and viscera; death occurred in another month. Biopsy showed the neoplasm to be melano-sarcoma.

#### SEBORRHEIC KERATOSES

These lesions, also called senile warts and seborrheic naevi, are very common on the temples, sides of the face, the mid-line and especially the nose, on the back, shoulders and hands of elderly persons. They develop slowly, appearing first as a small, yellowish, somewhat scaly patch, varying in diameter from 2 to 20 mm. Later they are covered by a hard, thick, dark, closely adherent crust. There are three types. (1) The keratoid, usually small and covered with a hard, dark crust. (2) The nevoid appears as a soft, yellowish lesion, with but little horny thickening. (3) The verrucose shows a thin, yellowish crust which when removed exhibits a warty surface beneath. None of

per cent of these lesions become malignant. When degeneration takes place the lesions on the face and shoulders show a large majority of basal-celled epitheliomata, while those below the angle of the mouth usually are prickel-celled carcinomata.

#### SIMPLE KERATOSES

Solitary patches of simple keratosis may develop very often in elderly people. They begin as papules from 1 to 3 mm. in diameter and possess a dense, horny consistency. The crust, which is very adherent, and blackish in color, becomes detached but once or twice each year. Ordinarily they are single but occasionally they are multiple. It is unusual to find more than 3 or 4 such lesions on a person. The areas involved are usually the face and back of the hands. Those malignancies occurring on the face are basal-celled while those on the hands are prickle-celled invariably.

#### ARSENICAL KERATOSES

It is a well known fact that arsenic, in whatever form, administered orally in fairly large doses and over a considerable period of time will cause a keratosis which very frequently gives rise to malignant change. Hartzell, Schamberg and Fordyce<sup>6</sup> have all made exhaustive study of this condition and all are agreed on the essential features. When arsenic has been administered intravenously much fewer keratotic lesions have been encountered. The lesions are more marked on the palms and soles. The neoplasms are usually prickel-celled carcinomata.

#### KERATOSIS FOLLICULARIS OR DARIER'S DISEASE

This disease has been known to give rise to malignant degeneration, and the neoplasms arising therefrom have been prickel-celled carcinomata. The keratotic lesions have been the site of malignancy. Wende of Buffalo reported such a case in *The Journal of Cutaneous Diseases* in 1908.

#### CUTANEOUS HORN

Cutaneous horn often develops on senile warts and they are very prone to malignant degeneration. They usually occur about the face or on the lips or nose. They give rise to basal-celled epitheliomata.

#### OCCUPATIONAL DERMATOSES

A considerable literature has appeared from time to time touching upon the kara-

Particularly is this true of tar workers, those employed in paraffine refineries, chimney sweeps and gardeners who use soot as fertilizer. Crude petroleum and its products are particularly irritating to the skin, and especially the hair follicles which are found to be filled with dark horny plugs. Often distinct keratoses form which are prone to undergo malignant change. In chimney sweeps and gardeners the soot collects in the rugae of the scrotum and following keratotic patches, arising as a result of the prolonged irritation, prickle-celled carcinomata ensue.

#### XERODERMA PIGMENTOSUM

This condition, a seeming congenital intolerance to actinic rays of light, appears early in life, first as an inflammatory hyperemia, interspersed with distinct freckling. Soon there appear atrophic areas on the skin associated with telangiectasis. The skin becomes dry and harsh, photophobia is marked and soon there appear multiple keratotic patches about the face and neck and generally distributed. Malignant degeneration is the end result of all cases. Often the course is very rapid and multiple epitheliomata develop early in life, occasionally as early as the 12th or 14th year. Basal-celled cancer is usually found.

#### SAILOR'S SKIN AND FARMER'S CANCER

These conditions are directly due to exposure to sun and weather, usually occurring where the rays of the sun are intense, and associated relative low humidity and an acquired susceptibility to actinic rays of light. The exposed parts first show a diffuse cyanotic hyperemia, with pigmented areas, then telangiectasis and finally a dry, harsh skin with multiple keratoses. From these keratotic lesions arise basal-celled epitheliomata.

#### RADIO-DERMATITIS

This condition, which occurred much more frequently in the early days of x-ray and radium therapy, due to the fact that both operator and patient were not protected against prolonged exposure to the soft rays, has contributed many disastrous results. Happily the modern technic of administering measured dosage, together with adequate protection to the operator assures that, especially in skilled hands, the days of radio-dermatoses are past. The clinical aspect is very similar to other conditions resulting from superexposure to actinic rays of light. The well known triad—pigmentation, atrophy and telangiectasis is omni-

present, following which the skin becomes dry, harsh, loses its secretions, the hairs fall out, the nails become stunted and roughened and small horny growths appear; from these malignancy develops which tends to progress more or less rapidly and usually may be basal-celled, prickle-celled or a mixed type of the two.

#### PAGET'S DISEASE

This condition was first described by Paget in 1874 from St. Bartholomew's Hospital Reports and was thought to be peculiar to the nipple, but almost as many extramammary lesions have been recognized and studied. The disease usually begins as a peculiar raw, granulating, weeping eczematous patch, subject to many clinical variations. If on the breast, it occurs after middle life and surrounds the nipple. Later cancerous changes are noted and the usual fatal termination ensues. Occasionally cancerous processes seem to antedate the Paget lesions but when present they are all regarded as precancerous. The condition is found on the breast, penis and other parts of the body. The cancers are of the prickle-celled variety.

#### MARJOLIN'S ULCER

Cancer frequently develops upon the cicatrices resulting from destructive dermatoses and particularly those resulting from burns of the third degree. These are called Marjolin's ulcer. The first manifestation is invariably a superficial ulcer with considerable foul discharge. There may be a fungating outgrowth or a deep ulceration, in either case accompanied by deep induration about the edges. Prickle-celled carcinoma predominates.

#### BOWEN'S DISEASE

This condition presents an indurated chronic, dry, patch, usually covered by a closely adherent crust, situated within the skin and gives one the sensation of feeling a plaque or coin at the base. When the crust, which is usually dark, is removed a raw, bleeding surface is exposed. It may occur on any part of the body. Prickle-celled cancer is the rule.

#### LUPUS VULGARIS

The prevalence of malignancy upon lesions of lupus vulgaris is a well established fact. It occurs usually about the prime of life when the lesions are of long standing. It is claimed that two per cent of all cases



of lupus vulgaris become malignant. The face shows a greater per cent of cancer. The lesions are prickle-celled, spread rapidly and very frequently metastasize.

#### LEG ULCERS

Ulcers of the leg do not show cancerous changes in but few cases and are therefore very unusual, probably due to the fact that cancer is more prone to develop upon dry lesions. Occasionally malignancy does occur and they are either of the cubo-celled or prickle-celled type.

#### LUPUS ERYTHEMATOSIS

The scars resulting from lupus erythematosus occasionally become the seat of skin cancers. When they have occurred they were of the prickle-celled variety.

#### BLASTOMYCOSIS

Lesions of blastomycosis often give rise to maglignant changes, especially those with the history of long duration and marked hyperkeratosis, or those lesions which recur or have been activated by vicious attempts at removal such as the cautery. When cancer develops it is of the prickle-celled variety, this because the lesions are prone to develop on exposed parts, particularly the hands and legs. An interesting condition showing this change came into our service recently. A retired farmer presented a typical lesion on the left hand, between the thumb and forefinger, with a history of 20 years duration. When first seen the lesion was small and of a dry, verrucal type. The usual method of treatment was indulged in, x-ray and large doses of the iodides, and response was prompt; a final dosage was prescribed but not taken, and recurrence took place. The blastomyces were found abundantly on three occasions. The lesion resisted radiation and amputation was had. Biopsy showed prickle-celled cancer.

#### SYPHILLIS

Malignancy developing upon syphilitic ulcer or scars is unusual, however, instances are well known. The change takes place more often in the scar than in the ulcer. The granulation tissue becomes prominent at some point, bleeds freely, the tissue is friable, paler than the surrounding granulations and induration may be detected at the edges. Further degeneration shows either a deeply eroding ulcer, a fungous over-

growth or a combination of both. The lesions are prickle-celled cancers.

#### SINUSES, FISTULAS AND BED SORES

Epithelial neoplasms may arise from any of these conditions, and while it is rare to find such involvement, the very fact that they have been recognized warrants a consideration that they may not be overlooked. The neoplasms arising from these conditions are more apt to be prickle-celled cancer.

#### WENS

The outer wall of these lesions occasionally affords a point of origin for malignancy. They are rare but when they do occur, they are usually of the prickle-celled type.

#### NAEVI

Either the vascular or pigmented type of these lesions very often give rise to malignancy and especially the pigmented variety. When they do become malignant they are largely sarcomata, but in rare instances prickle-celled carcinoma has developed. They are very malignant.

#### PAPILLOMATA

The fibro-epitheliomata of the skin, commonly called papillomas, are very prone to malignancy, especially if they are subjected to prolonged irritation. The type of malignancy may be either basal-celled or prickle-celled cancer.

#### CUTANEOUS WARTS

While the great majority of warts are benign and do not tend to malignant change, there are two well known varieties which are so inclined, namely, the basal-celled and the prickle-celled. Macroscopical differentiation of a malignant wart from one of benign tendency is determined by the basal induration and persistent surface ulceration. These malignant warts are not so virulent as many other neoplasms arising from the skin and thus show a slower growth, less tendency to metastasis and consequently offer pleasing results in early removal. They may occur at any age. The sites of predilection are the lips, face, tongue, penis and less frequently the body at large. Because of the unsightly appearance (especially on the face) inconvenience, and morbid fear of patients who are the unfortunate possessors of such lesions the quack finds a lucrative field for his exploitation. One such case, a man of 27 years

of age, came under our observation, with a malignant wart on the lower lip; it had been cauterized with acids and became very active, grew rapidly and showed markedly indurated base and edges. He was advised to consult a surgeon for relief, but instead sought a paste specialist, with the result that he succeeded in parting with his wart, and with it the major portion of the lower aspect of his face. A simple V-shaped excision was all that was required to give complete results.

#### MULTIPLE BENIGN CYSTIC EPITHELIOMA

In most instances this condition is regarded as a benign neoplasm, but several cases have been reported where malignancy has occurred<sup>8</sup>. The neoplasm is usually basal-celled epithelioma.

#### HEMANGIOMA

There are four principal types of this neoplasm, 1. The telangiectatic spots, 2. The flat naevi, 3. Those containing considerable spongy tissue of a somewhat erectile character and protruding considerably above the skin surface, 4. The racemose aneurysms. It is unusual for malignancy to occur in these lesions but occasionally sarcoma develops.

#### LYMPHANGIOMA

These neoplasms arise from both the deep and surface lymphatics. The deep lesions are usually secondary to some inflammatory process. The most familiar types are macroglossia, occurring in the tongue, and macrocheilia, in the lips. They may become the seat of sarcoma.

#### LYMPHANGIOMA CIRCUMSCRIPTUM

This condition is characterized by hypertrophy and new growth of lymph capillaries. They consist of circumscribed, elevated, crowded vesicles filled with lymph. Generally there is but one patch. The sites more commonly involved are the neck, upper portion of the body, genitalia and limbs. They may undergo malignancy. Such a case came under our service showing a typical lesion on the neck just above the left clavicle. It had been cauterized and had recurred with all its former characteristics and extension. In either end of the lesion was a broken down ulceration with indurated edges and base. A biopsy was secured from either end and pronounced by a competent pathologist as basal-celled epithelioma.

#### LEUCOPLAKIA

mucous membranes and is due to thickening and keratinization of the epithelium. The plaques vary as to general appearance, some showing merely an opaline pelicle, some diffuse sheets, some in irregular streaks, while others may be more or less pigmented. The surface is usually smooth but may be rough and warty and occasionally may peel off in flakes. The sites more commonly affected are the dorsum and sides of the tongue, the palate, inner surface of the cheeks, commissures of the mouth, and lower lip, but it may also occur on the penis and vulva. In the latter two regions it is commonly known as kraurosis. This condition is a chronic affection and tends to persist indefinitely, it does not disappear spontaneously. This malady is a precursor of cancer and especially is it prone to malignancy when the lesions are subjected to irritation. The condition appears more frequently in men. Prickle-celled cancer predominates.

This list, which is quite lengthy, presents the more important lesions upon which malignancy may originate. There are a few others but show malignant change rarely and hence have been omitted for that reason.

#### TREATMENT

The methods of treatment for these lesions are as numerous as the lesions themselves. Whether surgery, radio-therapy, surgical diathermy or endothermy, caustics, fulguration, electrolysis, carbon dioxide snow, or paste is used will depend upon the choice of the clinician and results will be reflected by his skill and judgment.

#### CONCLUSIONS

1. A definite precancerous relation has been established with certain well known benign lesions.
2. Early recognition and prompt means of complete eradication will prevent many of these lesions reaching malignancy.
3. The responsibility of the profession to their clientele is well defined and the duty imperative.
4. Sound advice or skillful interference, with reference to these conditions, will render excellent service to humanity.

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## Vitamines

G. G. NAUDAIN, M.D., Pittsburg, Kansas

Some fourteen years have elapsed since the knowledge of vitamins was placed before the world, and during the interval an enormous amount of investigation of these substances has been in progress in scientific and industrial institutions in all parts of the world, but in spite of this, up to the present time none of the vitamins have been prepared in the pure state. In general terms one might say that no vitamin has been caught, touched or weighed. Each and all of them remain in the category of things known only by their manifestations or their effects like electricity, light and gravitation. It is known that they are definite, although most elusive, chemical substances necessary in nutrition to the well-being of the organism. Yet, again while we know that they are essential in nutrition their mode of action and the reason why they are essential for normal health and growth remains unknown.

The word vitamin comes from "vite," meaning life, and vital and "amine" from the original belief that they were a nitrogen containing body or an amine. Since that time it has been proven that they, at least vitamin A, do not contain nitrogen and therefore are not an amine. Therefore some chemists refer to them as Fat Soluble A, Water Soluble B, Water Soluble C, and so on.

The greatest workers in this field are Steenbeck of University of Wisconsin, Nelson and Fullmer of Ames, McCollum of Johns Hopkins, Osborne and Mendel of Yale, Evans of California and Drummard of England. America has monopolized this field. England is a poor second and France, Japan and Germany are trailing behind.

There are 5 or 6 vitamins—A, B, C, D, E and X. There is a slight mixup in the names of D, E and X. A person must define or describe the vitamin which is under discussion. For instance D is some times called Bios and again the anti-rachitic vitamin. E and X are sometimes interchanged and called the reproductive vitamin. Vitamins A, B, C and the anti-rachitic or D are well established. The others, E and X, are still questioned. The Germans, in an endeavor to clear the nomenclature question, called the vitamins—Completions A, B, C and D, with the term vitamin for what we call vitamin C. No one in America or England uses the German nomenclature.

It is well to consider the vitamins separately.

First—Vitamin A or the fat soluble vitamin. This vitamin is called fat soluble vitamin because it is soluble in fat and found in some fats in large amounts. The richest source of vitamin A is cod liver oil. Cod liver oil is some 200 times richer in vitamin A than is dairy butter. Other fish oils are very rich in vitamin A. Other sources and their amounts of A are: egg yolk is good, oleo oil is good, green leaves are good, wheat germ is fair, liver is good, kidneys are fair, muscle is poor, endosperm of seeds are poor. There is not any vitamin A in lard, olive oil, cotton seed oil, etc. Any trace of A that may be in cotton seed oil or peanut oil is destroyed by hydrogenation or the introduction of hydrogen into the oil changing it from a liquid to a solid. This solid oil is then used in margarines and lard substitutes as, for instance, Crisco. These fats are as nourishing as any fat except they are deficient in vitamin. Oleo fat which goes into oleomargarine is as rich in vitamin as butter if properly treated. It is possible to add vitamin concentrates to the vegetable hardened fats used in margarine and makes them as rich as dairy butter. These methods are trade secrets. Margarines so treated are as good as dairy butter in every way and much cheaper. The farmer should have no objections to this product since he produces the cotton seed oil, peanut oil, etc., from which the margarines are made.

The lack of vitamin A in the diet causes a disease called xerophthalmia or an eye trouble. In severe cases blindness is the result. Other troubles that arise are, it increases the tendency to lung diseases, the lack of A causes an abnormal skin condition, the fur falls out and the skin peels, causes diarrhea, diminished appetite, the growth stops, increases the susceptibility of the body to bacterial infection, etc. The eye disease is used as a measure of the deficiency of the vitamin. The lack of A causes the eye lids to swell, the eyes become sensitive to light, they discharge pus and blood, the lids become scabby, the cornea develops infection and blindness results. All of these symptoms, if not gone too far, disappear rapidly upon receiving vitamin A in the food. An adult is not so dependent on A as a child because normally an adult body contains a store of the vitamin which supplies the body over a period of deficiency. The experiments are carried on with the animals such as rats, guinea pigs,

pigeons, etc. The same rules that apply to these creatures also apply to larger animals and human beings. The same symptoms and deficiency diseases have frequently been seen in humans in such periods as the last war and in famines.

Rats are especially fine animals to use. They soon tame, are contented in cages and their span of life is short or rapid. One month in a rat's life corresponds to nearly four years in a human's life.

A common diet to bring a rat down on xerophthalmia is:

Starch or dextrin .....	74%
Yeast for B .....	4-6%
Salt mixture .....	4%
Casein, a protein purified by alcohol extraction .....	18%
	<hr/> 100%

The salt mixture consists of the following salts: Calcium lactate, iron citrate, magnesium, di sodium hydrogen phosphate, potassium iodide.

Physical and chemical properties of vitamin A. Vitamin A is fat soluble. Vitamin A often occurs with yellow pigments in such products as yellow corn and carrots although there are exceptions to this rule. Vitamin A resists saponification.

Vitamin A is destroyed by oxidation especially when accompanied by high temperatures. A resists cooking, canning and drying processes fairly well.

Vitamin B. Vitamin B is found in the following: Plants, as green leaves are rich in B. Yeast is the richest source of B, milk is fair, blood is fair, germs of grain are rich. Animal storage in B is small.

The effects of a lack of the B vitamin are: The animal ceases to grow, the body develops weakness, there is a fall in body temperature, the adrenals enlarge. Other organs lose in weight. The lack of B increases the susceptibility to disease. The lack of B in the body causes sterility, anemia, loss of appetite, diarrhea, headache, enfeebled heart action and neuritis. The lack of B causes beri-beri in man.

The nerve trouble is especially marked in polyneuritis in pigeons. The head is drawn back and the pigeon goes over and over backwards. The disease is quickly cured by supplying B which occurs in wheat germ or yeast. The cure is remarkably rapid. Apparently cure takes place in two or three hours..

A diet which will develop polyneuritis is:

Casein protein .....	18%
Dextrin .....	73%
Salt mix. ....	4%
Cod Liver oil or fat, butter fat filtered .....	5%
	<hr/> 100%

The physical and chemical properties of vitamin B are: Vitamin B is soluble in water and 70 per cent alcohol. It is more stable in acid than alkali.

A temperature of 100 degrees for two hours destroys only a little of vitamin B. Therefore the loss in common cooking is small. Chemists believe B to be a nitrogen compound, a purine or pyrimidin and perhaps is a tautomeric form of some known substance.

Vitamin C. The distribution of vitamin C in the body and in foods is as follows: The liver is richer in C than muscles. Muscle is very low in C. Blood is fair, milk is fair, vegetables and fruits are rich in C. Cooking decreases vitamin C.

The significance of vitamin C in normal nutrition is: The lack of C causes the loss of weight, soreness of joints, hemorrhages, teeth loosen and fall out. The lack of vitamin C in man causes scurvy. It develops in prison camps and on ships. The lack causes teeth trouble, therefore should be of interest to the dentists. The only animals that show deficiency diseases due to the lack of vitamin C are: Guinea pigs, monkey and man.

Physical and chemical properties of vitamin C are: It is soluble in water, dialyzable, an organic compound, not volatile, is destroyed by heat and it is preserved in acid better than alkali.

Vitamin D. Or the Antirachitic Vitamin. In distribution, vitamin D generally accompanies vitamin A. Cod liver oil and fish oils are good in D. Butter is fair, greens are good, grains have little in some to none in others.

The significance of vitamin D in normal nutrition is: The lack of vitamin D causes rickets, teeth trouble, affects growth, etc.

Physical and chemical properties of vitamin are: A remarkable fact developed that ultra violet light also cures rickets. Is vitamin D a chemical compound that transmits energy as from the sun rays into the interior of the body? This is a question. Food subjected to ultra violet light acts the same to the animal as vitamin D. Light rays of 300 double mu or less are the only rays that are effective. Dark skin races re-



quire more sunlight than light skin races for the prevention or cure of rickets. Negro babies in northern climates run nearly 100 per cent rickets. Ultra violet light is in the sun rays. It will not pass through glass but will through quartz. Hospitals are using quartz windows. Ultra violet light can be secured also from a mercury lamp.

Vitamine E or the Reproductive Vitamine. As mentioned previously in this paper there is a controversy over vitamine E. Some chemists claim its existence has been proven. Others are not so sure about it. Time will settle this dispute. This vitamine is some times called vitamine X. Vitamine E has been reported present in rice, yellow corn, rolled oats, velvet bean, pod meal, dried alfalfa, egg yolk and cooked meat. Vitamine E is not present in milk. At maturity rats on the milk diet are of less than normal weight. They do not produce normally and the young if maintained exclusively on the milk diet show less satisfactory results than the parents. The evidence is abundant that a varied meat and vegetable diet is essential for satisfactory reproduction while a milk ration, although satisfactory for the infant period, is incomplete and insufficient for adults.

Raw foods as a whole are better than cooked foods. Of course cooking serves a valuable purpose in the sterilization of food. The vitamins are as a whole fairly stable with ordinary treatment. Oxidation will destroy the vitamins if care is not used.

A person need not worry for fear of a lack of vitamins if a varied diet is used. Such a diet would consist of meats, fats, green leaves, fruits, vegetables, cereals and dairy products. Beware of the false advocate who insists on consuming too great a proportion of food from any one source. Even pellagra, a deficiency disease, does not develop in those who consume a mixed, well balanced and varied diet. The varied diet is still the best dietetic practice and the best solution of the nutritional problem.

—R—

### Tumor of Carotid Body—Report of a Case

W. F. BOWEN, M.D., and MILTON B. MILLER, M.D., Topeka, Kansas

Read before the Shawnee County Medical Society, September 7, 1926.

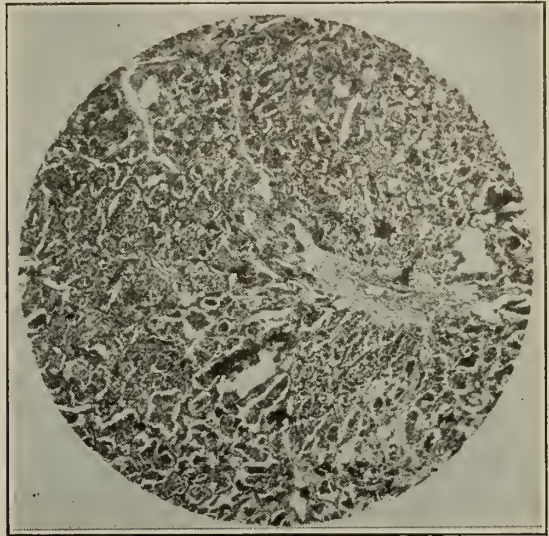
Patient, Mrs. R. Case, No. 7863 B. Admitted to Christ's Hospital, May 10th, 1926. Married. Age 36.

Family History: Father died of Bright's disease; mother living and in good health; one sister died of cerebral hemorrhage; six

brothers and one sister, all living and well.

Past History: Usual diseases of childhood—since which time she has always been well. Has had four children, three instrumental deliveries.

Present Complaint: That of a growth in right side of neck, which she first noticed about three years ago. This has slowly enlarged. During the last two years it has



Carotid Tumor (Mag. x95)

throbbled and ached and has made sleeping on the right side impossible. There has never been any redness or other evidence of inflammation about it. Her general health has been good throughout these past three years, and there has been no loss in weight.

Physical Findings: Negative, except for a small tumor mass in right side of neck, along the internal margin of the sternocleidomastoid muscle, about on a level with upper border of the thyroid cartilage. Tumor is hard, smooth in outline, moves laterally, but not vertically, is not particularly sensitive to palpation. Pulsation plainly felt through tumor, but it does not seem expansile. Pressure on the common carotid causes tumor to feel very much smaller. On auscultation there is no bruit heard. There are no palpable tumors in the neck. No adenopathy.

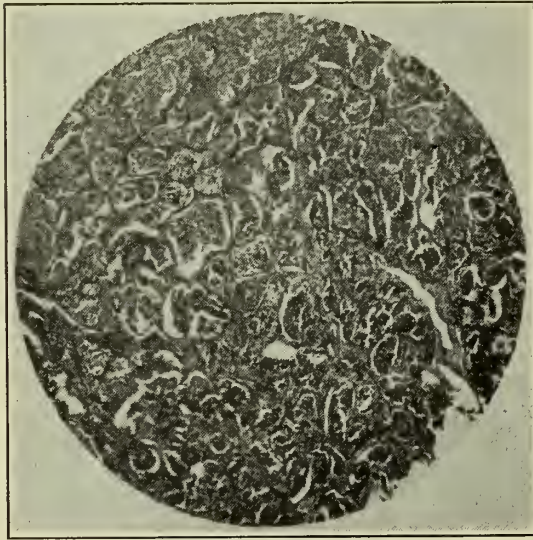
Laboratory Findings: Negative.

Pre-operative Diagnosis: Neoplasm right side of neck, etiology unknown.

Post-operative Diagnosis: Tumor of carotid body.

Operation: May 11th, 1926. Tumor extirpated. In the removal of this tumor, incision was made over tumor mass, sterno-

cleido-mastoid retracted to outside, internal jugular to the inside. Carotid sheath opened and tumor observed in bifurcation of common carotid. Tumor seemed fairly adherent to carotids and adjacent tissues and was covered by a very vascular capsule. Splitting of this allowed somewhat easier dissection, yet the danger of injury to the carotids constantly loomed up. The tumor was



Carotid Tumor (Mag. x115)

removed, however, without apparent injury to the carotids. Incision closed, leaving twisted cat gut drain in wound, to be removed within twenty-four hours.

Tumor had the characteristic color of a carotid tumor—that is, dark brown. It was 26x19x12 mm in size, and had a groove on each side where it was in contact with the external and internal carotid vessels.

The tissue was sent to the Lattimore Laboratories and also to the Laboratory at Bell Memorial Hospital and the following reports were received:

Pathological Report, Lattimore Laboratories, Topeka, Kansas: Client, Mrs. R.; Drs. Bowen and Miller; Date, May 10, 1926. Tissue from carotid body; color, grayish; consistence, firm; dimensions, 26x19x12 mm.

Gross pathology and anatomy. Grossly this specimen consists of an encapsulated mass of grayish tissue, showing smooth cut surface.

Microscopical pathology and histology. Section shows an alveolar arrangement of cells, marked variation in size of cells, the alveoli contain a granular substance. The epithelial cells are uniform in

my opinion that this is a benign tumor. Diagnosis: Adenoma of Carotid Body.

(Signed) J. L. Lattimore, Examiner.

University of Kansas, Bell Memorial Hospital.

Name, Mrs. R. Character of specimen, Carotid Body. Service, Lattimore Laboratories, Topeka, Kansas. Laboratory Report:

Gross Pathology. Material consists of a tumor mass measuring 26x19x12 mm. It is very hard. Its surface is very wrinkled due to drying, and dark brown in color. A small block for section has been removed. It seems to be entirely encapsulated by a thin but tough fibrous tissue. It cuts with resistance. The cut surface is smooth, is chiefly gray in color and is moist. It has a cellular appearance and seems to be quite vascular. There are some small areas which are pale yellow in color and softer than the surrounding tissue suggesting areas of degeneration. There are some bands of fibrous tissue which gives a semi-lobulated appearance.

Histological Pathology. The section shows a rather cellular tumor that is fairly well encapsulated. The capsule seems to be somewhat dried out and shows some congested blood vessels. Underneath the capsule the tumor cells have a distinct alveolar architecture, there being larger and smaller nests of rather large polygonal or rounded shaped cells separated from each other by a rather cellular type of connective tissue. These nests of cells show some shrinkage from the surrounding connective tissue that walls them off. The cells vary considerably in their appearance. Most of them tend to be cuboidal or polygonal in shape and the cell outlines are fairly distinct. They show a considerable amount of cytoplasm. The nuclei are fairly uniform and rather dark staining and rich in chromatin material. The cytoplasm is a little irregular and in places appears to show poorly defined vacuoles. No mitotic figures were seen. The picture suggests that of a benign adenoma rather than that of a malignant tumor. The stroma is cellular showing many rather young appearing nuclei also a few lymphoid cells.

In some places the stroma is abundant, the epithelial cells seem to be largely atrophied leaving numerous little cleft like spaces.

Diagnosis: Adenoma of the carotid gland



The patient made an uneventful recovery, except for first few days, when she had some hoarseness that disappeared as the post-operative swelling in her neck subsided. She was dismissed from the hospital May 24, 1926. General condition good, wound healed, some swelling in neck still present. Two weeks later she was examined in our office. Nearly all the swelling in the neck had disappeared, patient was feeling good. Our last report was August 26, 1926—almost four months since the operation—when she wrote she was “getting along nicely.”

As tumors of the carotid gland are not common, we thought it might be of interest to give a short resume of these tumors, as previously reported by other surgeons.

The carotid gland normally lies in, or about the bifurcation of the common carotid on both sides, but not always present. It is of doubtful origin and of unknown function. In early life it is about the size of a grain of wheat. It is reddish or grayish brown in appearance, and made up of rather characteristic large polyhedral cells, in a vascular network, containing an abundant nerve supply from the cranial and sympathetic nerves.

Tumors of this gland have been found to be both benign and malignant, and ordinarily of slow growth, may occur at any age, but most frequently between 20 and 35. The youngest case on record was age 7, and the oldest 80. The first reported case was that by Marchand, in 1891. A series of 11 operated cases were reported by Rectus in 1903. Twenty-seven more were collected by Keene and Funke in 1906. Collison and McKenty collected 54. In 1920 Reid had increased the number to 69. Since this date I have found reported, 7 other cases, making, with this present case, a total of 77 reported operated cases, and the pre-operative diagnosis of these tumors has only rarely been made. The tumors have been unilateral, with one exception. A patient of Jack DaCosta's, with dilateral sarcoma of the carotid gland, not operated, and diagnosed at autopsy. In Collison and McKenty's report of the 54 cases they collected up to 1913, 32 had recovered, 22 died. Of the remainder, 3 had hamiplegia with aphasia; 4 had dysphagia; 1 constant cough; 5 had deviation of tongue; 4 had eye symptoms; 4 facial palsy.

Most of the above cases came for operation, 8 to 15 years after first noticing the growth.

The results of operative procedures since this date have shown little improvement,

except in those rare cases, where the patient appeared early for operation.

The dangers are due to its close relationship with the carotid vessels, which so frequently have to be ligated, and the possible injury of the hypoglossal, pneumogastric and recurrent laryngeal nerves.

The history of ligation of the common carotid itself, is attended with a mortality rate between 25 and 30, and Pelz states that 32 of the cases in which the common carotid has been ligated, exhibit brain symptoms, and that 56 of the cases showing brain symptoms die.

DaCosta's conclusions are that early operation is indicated when the chance for ligation of carotids may be avoided, and that to wait for obvious malignancy is to court failure or disaster, and a study of the operated cases reported to date will bear out the above statement.

—————R—————

### “Whither Goest Thou”

BY RENIG ADE

(J. A. Dillon, M. D., Larned.)

The season comes around—alas too rapidly—as it has been doing the last few years, when the doctor should take his annual vacation. With the customary deference to the allurements of many places geographically remote, a general discussion was held in the family, and as usual the Rockies, with their terror-inspiring cliffs and canons were championed by the Doctor.

He even rhapsodized a bit—mentioned the wonderful color effects seen on the peaks as the shadows play hide-and-seek among the stalwart, fragrant pines.

While relieving himself of this peroration for the benefit of a romantic caller, he absent-mindedly wondered if a Coachman or a Gray Hackle would be the better fly to use.

The Doctor had often regretted this inability to keep his mind on things not “earthy,” and secretly felt chagrin that baser thoughts would creep in when the soul should be engrossed with higher and nobler reflections.

This had been a source of remorse since he was a boy. He could recall that when a mere lad he would sit in the little old school-house which served as a community church, public meeting place, election booth, etc., with bare feet dangling six inches from the floor, and try to concentrate on the thunderous words of the circuit preacher who valiantly shouted that “Mefizzlebah begat Boaz, and Boaz begat Apostrophe, and there

was famine in the land." Probably no easy task for any eight-year-old, especially as the meaning of the word "begat" was entirely beyond his ken. He did know, however, that good boys were supposed to sit quiet for at least an hour and a half, and pay attention to the sermon, or they were liable to die and go to hell on small provocation and with but slight notice. He also knew that the preacher would probably go home with them after church, and stay for dinner—and that would mean that he, the boy, would have to wait for the second table.

Many years have elapsed since then. The circuit rider, who drove a pair of little mules over the prairies, has long since been gathered to his fathers. The little copper-toed boots that took on crooked, wrinkled, tortuous shapes after being wet, and which housed the brown feet a few months in the year, have long since been stored away in the unplastered attic over the kitchen.

The boy of today escapes the tortures that belonged to him of years ago. The home-made "pants" made by mother, baggy behind, baggier in front, making it impossible to tell at a short distance whether the owner of the pants was coming or going—they also were duly packed away.

It would not be fitting to leave this subject of the "second table" without a more elaborate description of this inquisition of boyhood horrors of years ago. Modern civilization has placed the ban of its disapproval on this custom; showing, cynics to the contrary, that our civilization is advancing.

Picture to yourself a sturdy country boy, routed from his bed at 6, hurriedly eating his breakfast, doing the chores, driving the cows to pasture, working an old-fashioned dasher churn up and down for an hour—or as it seemed a week, digging potatoes out of a sandbar patch for dinner, taking a bath,—all but the neck and ears which mother must attend to, going to Sunday school, staying to hear a fanatical exhorter hold forth for an hour and thirty minutes, and finally going home to peek through the windows while jolly parents, relatives and friends made merry over a well-laden table for at least an hour!

No one, not even the shipwrecked sailor on a desert isle living on a pair of rubber boots fried in the grease of a tallow candle, will ever know the rebellious intense gnawing that consumes a healthy country boy who sees the others feasting while he looks on. And as the itinerant preacher irreverently lays his hands on the last chicken

liver—surely murder has been done for less.

These little sketches of childhood flitted before the Doctor's mental eyes as he dreamily listened to bubbling descriptions of Estes Park, Yellowstone, and the Grand Canon. He strove to be politely enthusiastic, and would have gotten by with it had not a sarcastic sniff from friend wife interrupted:

"He doesn't care a thing for the beauties of the mountains. He doesn't know azure from crimson. He thinks a perspective is an applicant for life insurance. All he wants to go to the mountains for is to camp out, fish, let his whiskers grow, and get out of taking a bath."

At this startlingly truthful arraignment the Doctor guiltily gulped, and feebly tried to defend himself.

He mildly stated that it was no great joy to take the same family that he had faced across the table every day at home to a high-priced cottage at a summer resort, watch them guide huge laden trays around a cafeteria speedway three times a day, and hear the band play in the park Wednesday night and Sunday afternoon. As for sitting alongside an ill-smelling mineral spring and discussing kidney trouble with a grade school teacher from Farmdale, Texas, he got practically no kick out of it. He would much rather pitch his tent in the somber depths of some canon, where the towering pines wove a green canopy high above, and the purling waters of a limpid stream seemed to beckon the straying traveler to follow its winding path. And to try a worm, if they were not taking flies.

The wife valiantly maintained a desire to go north into the lake country. The father and sons held out for the mountains. After a crisp debate a compromise was agreed upon—and the lakes were selected. However, it was decided to combine business with pleasure, and stop for a week at the mecca which annually draws members of the medical profession from all over the world.

The Doctor and family arrived at Rochester, and were duly installed in comfortable quarters. These quarters are to be found on all sides, and consist of good rooms at a reasonable price, in charge of a middle-aged lady who had her's taken out six years ago.

She speaks of this frequently, and also tells of the man from North Dakota who had his stomach removed and that of a sheep installed. This is a historical legend that has been handed down for twenty-five years. To doubt the scientific accuracy of



this is to brand oneself as a blasphemer and a heretic.

The Doctor accepted the landlady's version of this old oft-repeated tale, and even inquired into the particulars of this wonderful surgical feat. The landlady, her suspicions being allayed, graphically described the procedure, even to the extent of telling how much it cost to put this stomach of the sheep into the man from North Dakota. After the vivid recital the Doctor innocently remarked:

"Wonderful!" And then as an afterthought asked, "And doesn't it bother him at lambing time?"

The landlady gave a righteous sniff, and the gastric incident was closed.

The Doctor, in his week's stay, was more than ever impressed with the excellence of the work done, the courtesy shown to visiting physicians, and the lack of display. He saw no place for the spectacular wizard who would dazzle visitors, as he had sadly noted in a few other places. On the contrary, earnest competent men were striving to impart the things they had learned to others; with no other reward than the feeling that they had done their bit.

After a week's strenuous gazing at operations, the real object of the trip was again resumed.

A beautiful drive of two hundred miles brought them into the region of the voracious muscalunge and the sporty pickerel. For many years the Doctor had read of these creatures, and from pictures he had seen in nature magazines he had gained the impression that a fifteen-pound musky could probably drag an infuriated bull elk backward across Lake Superior without exerting itself. He was a bit hazy about the pickerel, but had an idea they also were without mercy should a poor fisherman fall into their clutches.

The Doctor was duly instructed how to fish for musky. The plan outlined he followed to the letter. He bought a clothes-line, or rather a line of about this diameter, tied a red-feathered hook with leader to it, installed himself in the rear of a rowboat which was propelled by another member of the party, and dragged this lure through the water at the end of forty feet of cable tow.

After a few miles of this wild sport it was suggested by the perspiring oarsman that the Doctor should function at the oars for a like space of time and distance. After a few sharp remarks back and forth the change was made and the musky fishing resumed. Two forenoons of this without

any success was considered a duty faithfully discharged. The clothes-line was coiled up and packed away.

However, the impression must not be gained that no fish were caught. Plenty of pickerel, from two to six pounds, were captured and duly landed without an effort and without a thrill.

The pickerel is a bit sportier than a rubber boot, but far less so than a mud-cat. The Doctor saw a lady from the rural districts of Iowa land a nine-pound pickerel without spilling a fishworm from the can she held in her lap. The Doctor murmured, "What if that had been a mountain trout?" And in his mind's eye he pictured this contingency. He saw the speckled scamp, after being hooked, jump into the air ten feet, deftly loop the line about the neck of the lady's husband, pull him overboard, and either drown him or flail him to death with his (the trout's) tail. Yes, and possibly the lady herself would be dragged out into the brush and mistreated.

Contemptuously kicking the eel-like pickerel which lay in the bottom of the boat, he rowed to shore and quarreled pleasantly with members of the family the rest of the afternoon.

Somewhere the Doctor had heard that the scenery was wonderful over the Canada line.

True, in the immediate vicinity where he then was there were hundreds of beautiful lakes and fragrant pine trees. There seemed nothing lacking that could add to the charm of the surroundings.

However, farther north the pine trees must be larger, the lakes cooler; and there were probably other advantages across the line.

Anticipation ran high as the intervening two hundred miles were being negotiated.

But as is always the case, anticipation was ninety per cent of the pleasure; for the realization was drab and prosaic. The topography of the country changed very little. The pine trees were neither larger nor greener than in Minnesota. The water was no cooler and the sweetish sickening potion they called beer is excelled by that which is brewed in nearly all the best homes in our own native land.

He therefore branded Canada as being a frost—a barren waste of land with no possibilities. Many a foreign land has been judged and sentenced on similar evidence.

The return trip down through Wisconsin, Iowa and Missouri was made without incident and without difficulty, barring the gumbo dirt road south of our own beautiful

State Capitol. The Doctor soliloquized: "Kansas, you slouchy old jade, you must get your hair bobbed and fix yourself up as have your sisters on the north."

—R—

## UNIVERSITY OF KANSAS CLINICS

Clinic of James R. Elliott, M. D.

Instructor in Orthopedic Surgery

### CRUSH-FRACTURE OF VERTEBRAL BODIES

April 7, 1925, E. N. white male, aged 30 years, entered hospital on my service. He gave a history of having been injured February 7, 1925, when the lift on which he was riding in a coal mine fell a considerable distance to the bottom of the shaft. His spine was "jack-knifed" and he was immediately unable to walk, retention of urine and loss of control of bowels followed.

His treatment had been entirely passive for six weeks, at which time friends took him to a nearby town and had an x-ray taken of his spine. Previous to this, diagnosis of fracture seemingly had not been made. Consultation following the x-ray brought no hope of improvement, and no active treatment was instituted.

As stated above, he was admitted to the hospital just two months after injury, during which time he had for the most part, catheterized himself. After admittance a week was consumed in various consultations and preparations for operation. The original laboratory report on urine was as follows: 300 c. c. catheterized specimen, straw color, turbid appearance, acid reaction, 1004 spg., trace of albumin, no sugar; microscopic, loaded with pus cells. G. U. consultant ordered; catheterize, p.r.n., irrigate bladder, and instill 1 per cent solution Mercurochrome, one ounce, acid free diet.

Blood examination was not far from normal in any respect; Hemoglobin 85 per cent, coagulation time 2 minutes, R.B.C. 4,800,000, W.B.C. 6,600, small lymphocytes 24, large 21, polynuclear neutrophyles 53 per cent, transitional 2.

N. P. consultant reports as follows: April 11, 1925: Psyche normal, pupils slightly irregular, good light and accommodation, upper extremities normal. Abdomen: rectus abdomini fair power, reflex present. Legs: marked weakness in ankles and toes but not totally paralyzed. Reflexes present, achilles absent. Babinski and Oppenheim neutral. Sole reflex present. Sensory: Anesthesia and analgesia involving coccygeal 5, 4, 3 and 2, sacral areas total. Diagnosis: "Cord trauma at or

about 12th dorsal vertebra, sphincters severely involved.

X-ray showed severe crush fracture of the first lumbar vertebral body in lateral view. Alignment good in antero-posterior view.

April 12: High plaster of paris jacket applied with thick dressing applied to back such as would be applied post-operative. On April 14th this was removed by anterior mid-line incision and surgical preparation made. April 15th, Laminectomy was done by Frazier's method; Laminae of the 12th dorsal and first lumbar were removed, dura was opened, spinal fluid was clear, no evident damage to cord other than anterior-posterior pressure. The wound was closed and small rubber dam drainage was inserted because of slight oozing of spinal fluid. (Drainage was removed in 24 hours.) Recovery was entirely uneventful so far as the surgical wound was concerned. Patient was kept prone for thirty days after operation, then back rest was gradually elevated. The first symptoms of improvement came on the tenth post operative day when patient had an erection. From this time on daily improvement was noted in gradual lessening of areas of anesthesia, he had occasional nausea and on two or three occasions emesis. On the 33rd post operative day he first had warning of a bowel movement in time to call for a bed pan. On the 38th day patient was put up in a wheel chair. On the 51st day he walked with support. On the 55th day he first voided voluntarily. Gradually walked more and more. On the 58th day he was catheterized immediately after voiding and no residual urine was found in the bladder. From this time on the recovery of control of the excretory functions was virtually complete. On the 60th post operative day patient was measured for a Taylor brace and a second cast applied. On the 63rd post operative day or June 18th, 1925, patient was discharged from hospital walking without help, voluntarily emptying bladder and controlling bowels.

This case is instructive in that here we have a man who three months after operation was making a living for himself and family, instead of being a permanent total disability. He was not operated on for two months after injury as his earlier consultants did not consider operation advisable. Conclusions: All traumatic cord injuries with paralysis should be given the benefit of operative procedure unless we have evidence of cord division.



# THE JOURNAL

*of The*

## Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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### THE EDUCATOR'S PROBLEM

Among those most intimately associated with medical education, those upon whom the responsibility rests, there appears to be a great deal of thought and study and worry, and much difference of opinion, as to whether the premedical course shall be lengthened or shortened and in what manner; and whether the medical curriculum may be safely condensed or additional time added thereto. The opinion seems to be prevalent, however, that a change of some kind is necessary.

When it was decided that two years of college work should be a prerequisite to admission to the medical schools, it was essential that some specific requirements for that two years course should be outlined. It was certainly the purpose of those who had the matter in charge to compel the students who contemplated the study of medicine to take those subjects provided in the college curriculum that would best fit them for the work they had in view, and by requiring of them a certain amount of work in chemistry and biology relieve the medical curriculum of a part of its time consum-

quirement of a year of modern language, such as German or French, was made. Certainly the knowledge of either of these languages that can be acquired in a year of college class work can be of little benefit to the student of medicine or to the practitioner, nor does it contribute anything worth while in the way of mental training. It is probable that the importance of this premedical course lies less in the knowledge acquired than in the mental training it gives the student. If that supposition has any foundation then one of the most important subjects for that purpose has been omitted, for there is no part of a college curriculum so peculiarly adapted to train the student in logical reasoning as mathematics; and certainly, more than an ordinary mathematical training is essential to one who goes very deeply into the study of bio chemistry, which is the most promising field for future investigation.

Some of those most intimately associated with medical education and more of those who may be classed as interested onlookers, believe that the present medical curriculum is too long, is too cumbersome and too technical. There are others who believe that the time is not distributed according to the relative importance of the various subjects. Each one scrutinizes the curriculum from his own viewpoint which lies well within the horizon of the subject to which he is most devoted.

There is apparently also some difference of opinion as to the purpose of a medical education. From some of the recent discussions one may infer that there are those who believe it is possible and advisable to turn out fully equipped and fully competent practitioners of medicine—like a Ford car that is equipped to carry any kind of load, water or sand, hogs or people, in any kind of weather and over any kind of roads.

There are still a few of the old timers who believe that the purpose of a medical education is not to turn out a perfected practitioner, they believe that until medi-

by demonstrable facts it will be impossible to do more than to prepare the material out of which the graduated student may make of himself a practitioner adapted to the demands of his field of labor.

In the evaluation of the medical curriculum, in the allotment of time and place for the various subjects in the curriculum, why should it not be possible to apply some of those business principles which determine the success or failure of great enterprises—at least it might be possible here to utilize the law of supply and demand.

The education, the training of a physician, is his stock in trade. Why should not he, like the merchant, take an invoice occasionally? When a merchant takes his annual invoice and finds that he has a line of merchandise for which there is no demand, in which there is no turnover, if he is a wise merchant he gets rid of it or reduces it to meet the demand and yield a profit. An invoice of the stock in trade of the medical profession might solve some of the problems that now confront the educators in the readjustment of the medical curriculum. For instance, if twenty-five or fifty or a hundred successful practitioners in different parts of the country, who have been in practice for ten years, were asked for an invoice—for the relative demand or turnover in the various subjects they had pursued in college it might be possible to determine what the general stock in trade of a general practitioner should include. If to this group were added surgeons and specialists it might be possible to determine what should constitute a basic stock in trade, to which could be added those lines which the location, the character of the clientele, or the kind of business contemplated would require.

The findings in such an invoice would probably suggest considerable modification of the present prescribed curriculum.

After ten years of practice the physician will find a high per cent of depreciation in his original stock in trade. He will find that much of the knowledge acquired in the medical school has become obsolete, much of it

has become stale and musty from lack of demand and is no longer dependable. In spite of its basic importance in the study of medicine it will probably be found that there has been a relatively light demand for anatomy, to which a minimum of 500 hours is allotted in the medical curriculum. On account of the prevalence everywhere of efficient commercial laboratories it will probably be found that there is little demand for the technical knowledge acquired in long and tedious laboratory courses connected with the departments of chemistry and bacteriology and pathology. The training in anatomy and these other subjects has no doubt served its purpose in preparing the student for the study of the so-called practical subjects, but since a consideration of its economic relations has been injected into the discussion of medical education, it would be interesting and might be profitable to make such an inventory of the medical curriculum on the basis of its practical value.

One who is well educated, who has a well balanced intellect, who is widely informed and whose mental horizon is not limited by ambition or greed, will see little to commend in such a proposition. He will perhaps regard the elements of an education as blended in a composite whole which distinguishes the educated man from the skilled workman. He will perhaps believe that, while the technical knowledge required of the student of medicine may not be inventoried for its practical value as a distinct and separate asset, it helps to clarify his perception of etiologic and pathologic relations and helps in the rational solution of many of the more intricate medical problems.

After all, perhaps, the best method of procedure will be determined by the solution of the question whether medicine is to be regarded as a business or a profession.

—R—

Canitics, the science of treating hair so that it retains the color desired. It prevents hair from turning gray or white. A school for teaching this science has been opened in New York City.



## CHIPS

The prolonged administration of acetanilid produces anemia and emaciation. Its action on the blood, heart and circulation is the same as that of aniline. It is probably the para-aminophenol that is formed in the body when acetanilid is administered that accounts for the cyanosis sometimes observed.

"A bill has been introduced into one of the legislatures of the Western states (not Kansas) to the effect that, when two trains on different tracks approach a crossing they must both stop and neither proceed until the other has passed." This may be of more interest to the scientist than it is to the doctor but it is a diversion and as easily thought out, how it is done, as some of the problems confronting the physician.

Since the constitutional amendment providing pensions for the deserving blind was passed by Missouri there have been 5,927 applications for relief. The statute provides a pension of \$25.00 a month to applicants over twenty-one years of age who have been residents of the state for at least ten years or have lost their sight while bona fide residents of the state and who do not have incomes from all sources amounting to \$780.00 per annum. It is estimated that of the 5,927 applicants approximately 1,500 became blind from the effects of syphilis or gonorrhoea.

Harmer (London) reported an examination of 467 dispensary patients to determine the relative importance of syphilis and rheumatism in the etiology of aortic disease. It was found that 37.3 per cent of all cases of aortic regurgitation in patients between the ages of twenty and seventy showed a positive Wassermann. Rheumatism was found in 27.2 per cent. He states that fifty per cent of all uncomplicated cases are syphilitic origin, and 17.4 per cent rheumatic. In those between the ages of twenty and thirty-five he found 44 per cent syphilitic. In those over forty years of age 71.3 per cent were syphilitic and 5.2 per cent of rheumatic origin.

Recent investigations have shown that soaps are, to some extent at least, germicidal. Diphtheria bacilli, streptococci and pneumococci, adhering to the hands are destroyed by thorough washing with ordinary soap. Some other microorganisms seem capable of resisting the action of soap.

For the local application of medical dia-

thermy, that is, the heating within physiologic limits of well defined parts of the body, it is permissible to raise the temperature to from 40 to 45 C. (104 to 113 F.) with the proviso that the individual tolerance be taken into consideration. Temperatures beyond 45 C., while not necessarily leading to complete coagulation of albumin, produce injury in the tissues. In general diathermy, usually called autocondensation, the safety limit is the raising of the temperature up to 2 degrees C. (3.6 degrees F.) above the normal. Higher temperatures are apt to lead to severe disturbances. The desirable physiologic and therapeutic effect is brought about by moderate heating, causing an active hyperemia and the subsequent amelioration of the local metabolism. (Jour. A. M. A., July 3, 1926.)

For several years Hobbs has used intrauterine injections of pure glycerine in the treatment of septic conditions of the uterus and its appendages with very favorable clinical results. He attributed its beneficial effects to its lymphagogue action by which free drainage of the tissues is brought about. Recently Compton (Lancet, August 14) has studied the relative toxicity of glycerine on bacteria and tissue cells and has found that it is an ideal antiseptic and that it is distinctly bactericidal to streptococci and more readily bactericidal to gonococci.

Bonney (Lancet, September 4) described an operation for ventrofixation that tends to relieve the visceroptosis that is so frequently found in women. The round ligaments are brought up and a puckering suture run the length of each so that when drawn up and tied they form excrescences on the sides of the uterus and are then fixed with the uterus to the abdominal wall. The result is the formation of a ledge or partition across the abdominal cavity separating it from the uterovesical space, upon this the intestines rest.

An investigation into the effects of the oils of peppermint, cinnamon, anise, caraway, wintergreen, fennel and orange indicates that the primary effect of these carminatives in concentration and doses comparable to those used clinically, is to relax the stomach and increase the tone and contraction of the small intestine and colon. Relief of discomfort by carminatives after a full meal can be understood easily in view of the relaxation produced by them; while in the intestine the effects of distension

with gas or fluids would be relieved by increase in tone and contraction. (Jr. A. M. A., July 17, '26.)

At the last annual meeting of the Association of American Medical Colleges David J. Davis, Dean of the University of Illinois College of Medicine, closed his address with the following: "Much of the old time medicine is still most valuable and useful. We need the literary style, the scientific spirit and the ethical ideals of Hippocrates. Perhaps, we need his oath more today than ever. We need at least some of the preparations of Galen, together with his experimental method and his self-confidence. We need the imagination of

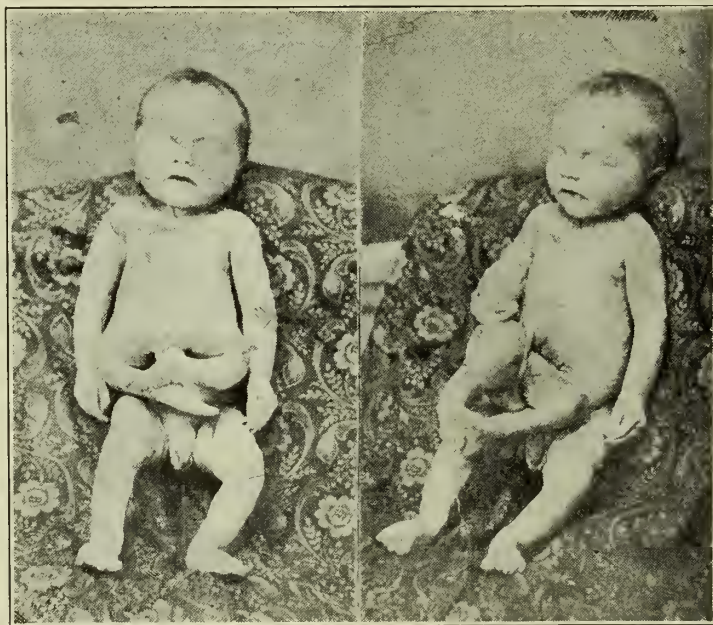
Fracastoro of Verona who could state so clearly the modern idea of infection long before a microscope was made. We will continue to admire the anatomy of Leonardo and Vesalius. We would not discard the pharmacology and therapeutics of Paracelsus in spite of his bombast. Nor could we do without the good sense and keen powers of observation of Sydenham; or the experimental method of Harvey; or the pathology of Virchow; or the bacteriology of Pasteur and Koch; or the bedside teaching of Osler.

A condensation of the ideals, the teachings and the spirit of all the masters is quite sufficient upon which to build a modern medical program."

#### One and a Half (Pygodidymus?)

The following photograph and record of case was recently sent to the Journal by Dr. J. E. Minney, Los Angeles, California, who was for many years prominent in the medi-

pressions during pregnancy. The woman was large, broad hipped and the delivery was quick, normal and easy. The normal child presented first followed immediately by the annex and afterbirth. The cord was attached normally to the umbilicus of the



cal affairs of Kansas. This woman who gave birth to this child was delivered by him while in general practice at Columbus, Kansas. Since it has never been reported, it seems worth while to put it on record.—(Editor.)

This one and half child pictured here, was born in Columbus, Kansas, in May, 1882. The father was a laborer and the mother a housewife, ages 26 years. There were three

child. The cord of the extra was attached, also to the umbilicus of the child and to the pubes of the annex. At the umbilicus where the two cords were attached separately, there was a circular area two inches in diameter, void of skin and muscle. The peritoneum, only furnishing the covering. Peritonitis developed (?) and the child died at the end of the third day—seventy-two hours.



perforate anus. The pelvis was wedge shaped in front, meaty but there was no abdominal viscera palpable.

—R—

### Beating Back

BY THE PRODIGAL

Lest we forget—That the ancient Hebrews taught and practiced preventive medicine and in fact they were “the founders of prophylaxis.” They also had a cade of ritual hygiene—dietetics was strictly enforced.

They practiced segregation in cases of contagious and infectious diseases and disinfected or destroyed the house or tent in which the patient was afflicted. It would be well for our health boards to get a copy of Leviticus in which book is found these health laws.

Later—In the Susruta, 500 A. D. is found a description of malarial fever, “which is attributed to mosquitoes.” They were acquainted with dactyloscopy or the identification by finger-prints.

Asepsis was suggested by Hippocrates 410-370 B. C. for he says in dressing a wound, “If water is used for irrigation, it had to be very pure or else boiled, and the hands and nails of the operator are to be cleaned.”

Many centuries ago the “Chinese used massage and were the first to employ the blind as masseurs.”

Query—Why were these discoveries not continued in use One reason may be because the age in which they were made and practiced was not advanced enough to appreciate them and to comprehend their importance to health and life. The ignorance and superstition of the masses who believed that disease, sickness and death were caused by evil spirits and demons smothered out the truth as known by the few.

In fact while this is an age of reason there are some persons who carry a rabbit foot for good luck and a buckeye in the pocket to ward off rheumatism, claim that there is no such thing as sickness, pain or suffering in the human body; depend upon incantations and absent treatment to remove pathological conditions and restore them to health. Which strata of superstition and ignorance has not been altogether educated out of the human mind.

### THINGS MEDICAL

The degree of civilization reached by a nation is measured by the health regulations of the government for the prevention

of disease and the protection of the lives of its people. The Mexican government shows signs of progressive civilization by its new sanitary regulations for the control of contagious and infectious diseases. The law provides, also, for medical examinations before marriage for the parties concerned.

The atonic abdomen is clamoring for scientific medical attention. The treatment is calisthenic therapy. It consists in lying on the back and raising to a sitting posture, without the aid of hands or arms. This should be done daily, a few times in the beginning, and gradually increasing the semi jack-knife movement to one hundred times, as endurance will permit without exhaustion. It will beat the flabby belly muscles back into shape.

The orthodontist says that the price of each ounce of candy eaten by a child is a tooth. An exaggeration but the assertion is founded on fact.

The blood test as evidence to determine the father of a child and accepted as proof, in the courts of San Francisco recently, has been recognized by the courts in London, England, as admissible and the begetter of the child at issue identified, the parentage fixed, the law satisfied and the sun do move.

There is a hagfish found in Monteray Bay, California, that has three hearts. One of these hearts is in its tail. This is news and not information.

The doctor who does not believe in maternal impressions is an infidel. At any rate he is not a fundamentalist—Read, Genesis, second half of the thirteenth chapter, and get the evidence.

Poultrymen are using the ultraviolet ray to hasten the growth of the young chicks. Why not use the ray to hasten the growth of the child? The principle governing the growth of animal life is the same.

We are taught that use, exercise, develops an organ in the animal. Owing to the increased noises caused by street cars, railroad cars, automobiles, electric hammers on steel buildings and the “modern clamor” it will require and develop jack-rabbit ears in the human to catch the spoken word. When such elephant ears are developed in the next generation—bobbed hair will disappear in both sexes.

—R—

Dr. R. H. Major spent a three weeks vacation fishing in Lake Osakis, Minnesota.

## Constitution, By-Laws and Resolutions of the Kansas Medical Society as Amended to Date.

### CONSTITUTION

#### Article I.—Name of the Society.

The name and title of this organization shall be The Kansas Medical Society.

#### Article II.—Purpose of the Society.

The purpose of this Society shall be to federate and bring into one compact organization the entire medical profession of the State of Kansas, and to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition, and to enlighten and direct public opinion in regard to the great problem of state medicine, so that the profession shall become more capable and honorable within itself and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

#### Article III.—Component Societies.

Component societies shall consist of those county medical societies which hold charters from this Society.

#### Article IV.—Composition of the Society.

Section 1. This Society shall consist of officers, councilors, delegates, members and guests.

Sec. 2. The officers of this Society shall be a President, three Vice Presidents, a Secretary and a Treasurer, to be elected by the House of Delegates for such terms of office as hereinafter provided.

Sec. 3. The Councilors shall be twelve in number, to be elected by the House of Delegates, one from each Councilor District, and to serve for such terms as hereinafter provided.

Sec. 4. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component societies in the House of Delegates of this Society.

Sec. 5. The members of this Society shall be the members of the component county medical societies or other societies approved by the Council.

Sec. 6. Any distinguished physician not a resident of this state, who is a member of his own State Society, may become a guest during any annual session on invitation of the officers of this Society, and shall be accorded the privilege of participating in all of the scientific work for that session.

#### Article V. Councilor Districts.

There shall be twelve Councilor Districts, comprised as follows:

First District: Nemaha, Brown, Doniphan, Jackson, Atchison, Jefferson, Marshall, Pottawatomie and Riley counties.

Second District: Leavenworth, Wyandotte, Johnson, Douglas, Franklin, Miami, Coffey, Anderson and Linn counties.

Third District: Woodson, Allen, Bourbon, Wilson, Neosho, Crawford, Montgomery, Labette, Cherokee, Elk and Chautauqua counties.

Fourth District: Shawnee, Waubesa, Geary, Osage, Morris, Lyon and Chase counties.

Fifth District: Rice, McPherson, Marion, Harvey, Reno, Stafford, Pratt and Kiowa counties.

Sixth District: Kingman, Cowley, Sumner, Harper, Barber, Sedgwick, Butler, Greenwood, Clark and Comanche counties.

Seventh District: Rooks, Osborne, Jewell, Mitchell, Republic, Cloud, Washington and Clay counties.

Eighth District: Lincoln, Ellsworth, Ottawa, Saline and Dickinson counties.

Ninth District: Cheyenne, Rawlins, Decatur, Norton, Phillips, Smith, Sherman and Thomas counties.

Tenth District: Sheridan, Graham, Trego, Gove, Logan, Wallace, Ellis and Russell counties.

Eleventh District: Barton, Rush, Pawnee, Edwards, Hodgeman, Ness, Lane, Scott, Wichita and Greeley counties.

Twelfth District: Meade, Seward, Haskell, Stevens, Grant, Stanton, Morton, Ford, Gray, Finney, Kearney and Hamilton counties.

#### Article VI.—Council.

The Council shall consist of the President, Secretary, and Treasurer, ex-officio, and twelve Councilors, one Councilor to be elected by the House of Delegates from each Councilor District. Besides its duties as mentioned in the By-Laws the Council shall constitute the Finance Committee of the House of Delegates. Five Councilors shall constitute a quorum.

#### Article VII.—House of Delegates.

The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1) Delegates elected by the component societies, (2) the Councilors, and (3) ex-officio, the President, Secretary and Treasurer of this Society.

#### Article VIII.—Sections and District Societies.

The House of Delegates may provide for a division of the scientific work of the Society into appropriate sections, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

#### Article IX.—Sessions and Meetings.

Section 1. The Society shall hold an annual session, during which there shall be held daily general meetings, which shall be open to all registered members and guests.

Sec. 2. The time and place for holding each annual session shall be fixed by the Council.

#### Article X.—Terms of Office.

Section 1. The term of office of the President, Vice Presidents and Treasurer shall be for one year. The term of office of the Secretary and of the Councilors shall be for three years. All of these officers shall serve until their successors are elected and installed.

Sec. 2. The officers of this Society shall be elected by the House of Delegates on the morning of the last day of the annual session, and no person shall be elected to any office who is not in attendance upon that annual session, and who has



not been a member of the Society for the past two years.

#### Article XI.—Defense Board.

A Medical Defense Board consisting of three members of the Council shall be elected at the annual meeting of the Council, for a term of three years; provided, that at the first election one member shall be elected for the term of one year, one for the term of two years, and one for the term of three years. The Medical Defense Board shall elect its own chairman, and the Board shall perform such duties as are provided in the By-Laws.

#### Article XII.—Reciprocity of Members With

##### Other State Societies.

In order to broaden professional fellowship this Society is ready to arrange with other state medical societies for an interchange of certificates of membership, so that members moving from one state to another may avoid the formality of re-election.

#### Article XIII.—Funds and Expenses.

Section 1. Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates, but shall not exceed the sum of \$5.00 per annum, except on a four-fifths vote of the delegates present. Funds may also be raised by voluntary contributions, from the Society's publications, and in any other manner approved by the House of Delegates. Funds may be appropriated by the House of Delegates to defray the expenses of the Society for publications, and for such other purposes as will promote the welfare of the profession. All resolutions appropriating funds must be referred to the Finance Committee before action is taken thereon.

Sec. 2. The sum accruing from two dollars per capita of the annual membership dues of the Society, together with any additional funds specially appropriated, and together with any unexpended residue of previous appropriations for the same purpose shall be set apart and constitute a Medical Defense Fund, and shall be subject to expenditure on vouchers signed by the Chairman of the Defense Board and countersigned by the President of the Society.

#### Article XIV.—Referendum.

Section 1. A general meeting of the Society may, by a two-thirds vote of the members present, order a general referendum on any question pending before the House of Delegates and, when so ordered the House of Delegates shall submit such question to the members of the Society who may vote by mail or in person, and if the members voting shall comprise a majority of all the members of the Society a majority of such votes shall determine the question and be binding on the House of Delegates.

Sec. 2. The House of Delegates may, by a two-thirds vote of its own members, submit any question before it to a general referendum provided in the preceding section, and the result shall be binding on the House of Delegates.

#### Article V.—The Seal.

The Society shall have a common seal, with power to break, change or renew the same at pleasure.

#### Article XVI.—Amendments.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates present at any annual session, provided

that such amendment shall have been presented in open meeting at the previous annual session; or that it shall have been recommended by the Council and published twice during the year in the Journal of the Society, or sent officially to each component society at least two months before the meeting at which final action is to be taken.

### By-Laws.

#### Chapter I.—Membership.

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid his annual assessment, shall be prima facie evidence of membership in this Society.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take part in any of the proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified, by reference to the roster of his society, he shall receive a badge, which shall be evidence of his right to all the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Sec. 4. Members of this Society may be enrolled as emeritus or honorary members upon the certified recommendation of the component county society to which they belong. Such recommendation may be based on years of faithful service in the profession, or on other grounds acceptable to the Council. Such emeritus or honorary members shall be entitled to all the benefits and privileges of active members, but shall be exempt from the payment of dues and assessments.

#### Chapter II.—Annual and Special Sessions of the Society.

Section 1. The Society shall hold an annual session at such time and place as has been fixed at the preceding annual session by the Council.

Sec. 2. Special meetings of either the Society or the House of Delegates shall be called by the President on petition of twenty delegates or fifty members.

#### Chapter III.—General Meetings.

Section 1. All registered members may attend and participate in the proceedings and discussions of the general meetings and of the sections. The general meetings shall be presided over by the President or by one of the Vice Presidents, and before them shall be delivered the address of the President and the orations.

Sec. 2. The general meeting may recommend to the House of Delegates the appointment of committees or commissions for scientific investigation of special interest and importance to the profession and the public.

#### Chapter IV.—House of Delegates.

Section 1. The House of Delegates shall meet on the first day of the annual session. It may adjourn from time to time as may be necessary to

complete its business; provided that its hours shall conflict as little as possible with the general meetings. The order of business shall be arranged as a separate section of the program.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every twenty members, and for each major fraction thereof, but each component society which has made its annual report and paid its assessments as provided in this Constitution and By-Laws shall be entitled to one delegate.

Sec. 3. Twelve delegates shall constitute a quorum.

Sec. 4. It shall through its officers, Council and otherwise, give diligent attention to and foster the scientific work and spirit of the Society and shall constantly study and strive to make each annual session a stepping stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county of the state, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every physician in every county of the state who can be made reputable has been brought under Medical Society influence.

Sec. 7. It shall encourage post graduate and research work, as well as home study, and shall endeavor to have the results utilized and intelligently discussed in the county societies.

Sec. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the constitution and by-laws of that body.

Sec. 9. It shall, when the best interests of the Society and profession will be promoted thereby, organize in each district a medical society, and all members of the component county societies, and no others, shall be members in such district societies. When so organized, from the presidents of such district societies shall be chosen the vice presidents of this Society, and the presidents of the county societies of the district shall be the vice presidents of such district societies.

Sec. 10. It shall have authority to appoint committees for special purposes from among the members of the Society who are not members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

Sec. 11. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

#### Chapter V.—Election of Officers.

Section 1. All elections shall be by ballot, and a majority of the vote cast shall be necessary to elect.

Sec. 2. The election of officers shall be the first order of business of the House of Delegates, after

the reading of the minutes on the morning of the last day of the general session.

Sec. 3. Any person known to have solicited votes for or sought any office within the gift of this Society shall be ineligible for any office for two years.

#### Chapter VI.—Duties of Officers.

Section 1. The President shall begin his term of office on the first day of January following his election and shall serve for one year. He shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; he shall deliver an annual address at such time as may be arranged, and perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the state during his term of office, and, as far as practicable, shall visit by appointment the various sections of the state and assist the Councilors in building up the county societies and in making their work more practical and useful.

Sec. 2. The President-elect shall serve as such from date of his election until the first day of January immediately following. He shall assist the President in the discharge of his duties and shall preside, in his absence, at the meetings of the Society, and shall be ex-officio a member of the Council at large. In the event of the death, resignation or removal of the President, he shall immediately succeed to that office. In case of a vacancy in the office of President-elect by death, resignation or removal or succession in office, the Council shall select one of the Vice Presidents to fill such vacancy.

Sec. 3. The Treasurer shall give bond in the sum of \$2,000. He shall demand and receive all the funds due the Society, together with bequests and donations. He shall pay money out of the Treasury only on a written order of the President, countersigned by the Secretary; shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the funds in his hands.

Sec. 4. The Secretary shall attend the general meetings of the Society and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be ex-officio Secretary of the Council. He shall be custodian of all record books and papers belonging to the Society, except such as properly belong to the Treasurer, and shall keep account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the annual session. He shall, with the co-operation of the secretaries of the component societies, keep a card index register of all the legal practitioners of the state by counties, noting on each his status in relation to his county society, and, on request, shall transmit a copy of this list to the American Medical Association. He shall aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their elections, committees of their appointment and duties. He shall employ such assistants as may be ordered by the House of Delegates, and shall make an annual report to the House of Delegates. He shall supply each component society with the necessary blanks for mak-



ing their annual reports, shall keep an account with the component societies, charging against each society its assessment, collect the same, and at once turn it over to the Treasurer. Acting with the Committee on Scientific Work he shall prepare and issue all programs. The amount of his salary shall be fixed by the House of Delegates. His bond shall be for the sum of one thousand dollars.

#### Chapter VII.—Council.

Section 1. The Council shall meet on the first day of the regular session, and daily during the session, and at such other times as necessity may require, subject to the call of the chairman, or on petition of three Councilors. It shall meet on the last day of the annual session of the Society, to organize and outline work for the ensuing year. It shall elect a Chairman and Clerk, who in the absence of the Secretary of the Society, shall keep a record of its proceedings. It shall, through its Chairman, make an annual report to the House of Delegates.

Sec. 2. Each Councilor shall be organizer peacemaker and censor for his district. He shall visit the counties in his district at least once a year, for the purpose of organizing component societies where none exist; for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work, and of the condition of the profession in each county in his district, at the annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of his duty herein imposed, together with per diem, not to exceed five dollars (\$5.00), may be allowed by the House of Delegates, on a properly itemized statement, but this shall not be construed to include the expense in attending the annual session of the Society.

Sec. 3. The Council shall be the Board of Censors of the Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Society. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or component societies on which an appeal is taken from the decision of an individual Councilor, and its decision in all such matters shall be final.

Sec. 4. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated so as to distinguish them from district societies, and these societies when organized and chartered, shall be entitled to all the rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 5. The Councilors shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Society, and shall have authority to appoint an editor and such assistants as it deems necessary. All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Treasurer of the Society. As the Finance Committee it shall annually audit the accounts of the Treasurer and Secretary and other agents of the Society, and pre-

specify the character and cost of all the publications of the Society during the year and the amount of all other property belonging to the Society under its control, with such suggestions as it may deem necessary. In the event of a vacancy in the office of the Secretary or the Treasurer, the Council shall fill the vacancy until the next annual election.

Sec. 6. The Council shall have power to create committees from its number and to endow them with authority to act in the interim between annual meetings of the Council upon all matters which would ordinarily require called or special meetings of the Council.

#### Chapter VIII.

Section 1. It shall be the duty of the members of the Defense Board severally or collectively to investigate all claims of malpractice made against members; to take full charge of all cases which after investigation they will have decided to be proper cases for defense, and prosecute such defense to the end, pay all costs of such defense, but they shall not pay or obligate the Medical Defense Board or The Kansas Medical Society to pay any judgment rendered against any member upon the final determination of any such case. They shall be empowered to contract with such agents or attorneys as they may deem necessary.

Sec. 2. The assistance for defense, as herein provided, shall be available only for members of The Kansas Medical Society in good standing. No member shall be defended for an action unless he was a member of the Society and a resident of the state at the time when the alleged malpractice was committed.

Sec. 3. It shall be the duty of any member of this Society threatened with a suit or suits for malpractice, to immediately notify the president of the county society of which he is a member, who shall at once send him an application blank, for the names of witnesses and so forth, and on receipt of this blank properly filled in, the president shall immediately appoint a committee, of which he shall be the chairman, and they shall proceed to investigate the charge made against such member.

Sec. 4. This committee shall examine the defendant member and his witnesses, if necessary under oath. If the committee shall agree that it is a case to be defended, it shall so report to the Chairman of the Defense Board of this Society. If this county committee shall decide that it is not a case to be defended, the defendant may appeal direct to the Defense Board of The Kansas Medical Society, which shall in all cases have the final decision whether a case is to be defended or not. The findings of these committees, if unfavorable, are to be communicated to the defendant alone.

#### Chapter IX.—Committees.

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work;

A Committee on Public Policy and Legislation;

A Committee on Arrangements, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary shall be one, and shall determine the character and scope of the scientific proceedings of the Society subject to the instructions of the

annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local, state and national affairs and elections.

Sec. 4. The Committee on Arrangements shall be appointed by the component society in which the annual session is to be held. It shall provide suitable accommodations for the meeting places of the Society and of the House of Delegates, and of their respective committees, and shall have general charge of all the arrangements. Its chairman shall report an outline of the arrangements to the secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

#### Chapter X.—County Societies.

Section 1. All county societies now in affiliation with this Society, or those which may hereafter be organized in this state, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, on application, receive a charter from and become component parts of this Society.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a Medical Society shall be organized in every county in the state in which no component society exists, and a charter shall be issued thereto.

Sec. 3. Charters shall be issued only on approval of the Council and shall be signed by the President and Secretary of this Society. On the recommendation of the Council, the House of Delegates shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution or By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the councilor for the district if necessary, and all the members brought into one organization. In case of failure to unite, an appeal may be made to the Council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered physician who does not practice or claim to practice, nor lend his support to any exclusive system of medicine, shall be eligible to membership. Before a charter is issued to any county society, full and ample notice and opportunity to become a member shall be given to every physician in the county who is eligible, as hereinafter provided.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county, in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, and its decision shall be final, and determine

whether or not the physician appealing shall hold membership in the society.

Sec. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. A member removing from one county to another shall automatically become a member of that component society in whose jurisdiction he resides, without other formality than the transfer of his name on the membership rolls, and the Secretary of this Society shall make such transfer when informed of such change of residence, and shall notify the secretaries of the component societies concerned of such transfer and they shall record the same.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each component society shall have general direction of the affairs of the profession in the county and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county, and systematic efforts shall be made to each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the annual session of this Society, each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Society in the proportion of one delegate to each twenty members or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this Society at least ten days before the annual session.

Sec. 12. The secretary of each component society shall keep a roster of its members, and of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this state, and such other information as may be deemed necessary. In keeping such roster the secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 13. The secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and list of non-affiliated physicians of the county to the Secretary of this Society on or before the first day of February of each year.

Sec. 14. Any county society which fails to pay its assessment, or make the report required, on or before the first day of February, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any business or proceedings of the Society or the House of Delegates until such requirements have been met. And a member of any component society who is shown in said report to be in suspension shall not be reinstated by said component society without formal action at a regular meeting of such society, following upon a favorable report of its board of censors, said action to be certified to the Secretary



of this Society with notice of the member's reinstatement.

Sec. 15. Physicians residing in counties where no component county society exists, who hold membership in any district medical society, independent or otherwise, whose principles or organizations are recognized by the Council as not incompatible with those of this Society, may by virtue of such membership be accepted as members of this Society. Applicants for membership in this Society under this provision must have their credentials certified to this Society by the proper officials of the given district society; but their membership dues must be paid by them directly to the Secretary of this Society.

#### Chapter XI.—Miscellaneous.

Section 1. No address or paper before the Society, except those of the President and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject, except by unanimous consent.

Sec. 2. All papers read before the Society or any of the sections shall become its property. Each paper shall be deposited with the Secretary when read.

Sec. 3. The deliberations of this Society shall be governed by parliamentary usage as contained in Robert's Rules or Order, when not in conflict with this Constitution and By-Laws.

Sec. 4. The Principles of Medical Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

#### Chapter XII.—Amendments.

These By-Laws may be amended at any annual session by a majority vote of all the delegates present at that session, after the amendment has lain on the table for one day.

### RESOLUTIONS

#### Committee on Necrology.

Resolved, that the Chair appoint a permanent committee of three to be known as the Committee on Necrology, whose duty it shall be to make note an dreport to the Society all deaths of members during the year. (Adopted Session of 1910.)

#### Committee on Public Health and Education.

Resolved, that the President of this Society appoint a committee of five, to be known as a Committee on Public Health and Education, to work in conjunction with the Committee of the American Medical Association, of like name. This committee to work under the direction of this Society and its Council in furthering the knowledge of preventative medicine, and especially a knowledge of cancer, and the importance of an early diagnosis among the lay public. (Adopted May, 1913, session.)

#### Committee on Medical School.

Resolved, that the President appoint a committee to get statistics from the Dean of the University and establish a closer relation between the Kansas Medical Society and the Rosedale School of Medicine. (Adopted session of May, 1916.)

#### Committee on Emblem of K. M. S.

Resolved, that the House of Delegates adopt the design of the emblem used at this meeting as a permanent emblem of the Kansas Medical Society. (Adopted session of May, 1926.)

Description of Emblem: Gold staff and serpent on a green cross on a white background with the name Kansas Medical Society in gold letters around the margin.



Resolved, By the House of Delegates of the Kansas Medical Society, that any member of this Society shall be regarded as unethical, who organizes, conducts, or participates in the operation of a free clinic which is not under the continuous approval and supervision of the County Medical Society having jurisdiction where the clinic exists. (Adopted session of May, 1926.)

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### DEATHS

Dr. James Erastus Jewell, Moran, Kansas, aged 80, died August 27, 1926. He graduated from the College of Physicians and Surgeons, Baltimore, in 1881, and located at Moran in October, 1882.

Dr. John Joseph Brady, Frankfort, aged 61, died September 4, 1926. He was graduated from the Kansas City Medical College in 1896.

Dr. Henry A. Brown, Iola, Kansas, aged 75, died August 30, 1926, from apoplexy. He graduated from Keokuk Medical College in 1878. He had practiced in Iola for twenty-five years.

Dr. Milton H. Demand, Haven, Kansas, died July 29, 1926, of pneumonia. He graduated from the University of Kansas School of Medicine in 1912 and was a member of the Kansas Medical Society.

Dr. William F. Lee, Humboldt, Kansas, a graduate of the College of Physicians and Surgeons of Keokuk in 1875, died recently.

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### MEDICAL SCHOOL NOTES

Dr. C. L. Siles of Dallas, Texas, was a recent visitor at the Medical School.

Dr. John A. Marshall, of the University of California, was a recent guest of Dr. R. L. Haden at the Medical School.

Dr. F. C. Helwig is expected to return about Sept. 15, from a trip to Germany.

Dr. C. A. Bennett has been appointed

prison physician for the Federal Penitentiary at Leavenworth, Kansas.

Dr. L. P. Engel has been appointed prison surgeon for the Federal Penitentiary at Leavenworth, Kansas.

Dr. E. J. Curran has just returned from a vacation which was spent at White Fish Lake, Minnesota.

Dr. L. G. Harrington, has a leave of absence to study abroad for one year.

Miss Hardin, Superintendent of Nurses at Bell Memorial Hospital, has just returned from Ann Arbor, where she has been taking post-graduate work in the University of Michigan Nurses' Training School.

Dr. E. H. Theisson has recently resigned from the dispensary staff and has accepted a position in the Research Hospital Clinic, Kansas City, Missouri.

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**Statement of the Facts and Opinions Agreed to by the International Meeting on Cancer Control Held at Lake Mohonk, N. Y., U. S. A., September 20-24, 1926**

Although the present state of knowledge of cancer is not sufficient to permit of the formulation of such procedures for the suppression of this malady as have been successfully employed for the control of infectious diseases, there is enough well established fact and sound working opinion concerning the prevention, diagnosis and treatment of cancer to save many lives, if this information is carried properly into effect.

1. The causation of cancer is not completely understood, but it may be accepted that for all practical purposes cancer is not to be looked upon as contagious or infectious.

2. Cancer itself is not hereditary, although a certain predisposition or susceptibility to cancer is apparently transmissible through inheritance. This does not signify that, because one's parent or parents or other members of the family have suffered from cancer, cancer will necessarily appear in other persons of the same or succeeding generation.

3. The control of cancer, so far as this subject can be understood at the present time, depends upon the employment of measures of personal hygiene and certain preventive and curative measures, the suc-

cess of which depends upon the intelligent cooperation of the patient and physician.

4. Persons who have cancer must apply to competent physicians at a sufficiently early stage in the disease, in order to have a fair chance of cure. This applies to all forms of cancer. In some forms early treatment affords the only possibility of cure.

5. Cancer in some parts of the body can be discovered in a very early stage, and if these cases are treated properly the prospect for a permanent cure is good.

6. The cure of cancer depends upon discovering the growth before it has done irreparable injury to a vital part of the body and before it has spread to other parts. Therefore, efforts should be made to improve the methods of diagnosis in these various locations and the treatment of the cancers so discovered.

7. The public must be taught the earliest danger signals of cancer which can be recognized by persons without a special knowledge of the subject, and induced to seek competent medical attention when any of these indications are believed to be present.

8. Practitioners of medicine must keep abreast of the latest advances in the knowledge of cancer in order to diagnose as many as possible of the cases of cancer which come to them.

9. Surgeons and radiologists must make constant progress in the refined methods of technic which are necessary for the diagnosis and proper treatment not only of ordinary cases but of the more obscure and difficult ones.

10. There is much that medical men can do in the prevention of cancer, in the detection of early cases, in the referring of patients to institutions and physicians who can make the proper diagnosis and apply proper treatment, when the physicians themselves are unable to accomplish these results. The more efficient the family doctor is, the more ready he is to share responsibility with a specialist.

11. Dentists can help in the control of cancer by informing themselves about the advances in the knowledge of the causes of cancer, especially with relation to the irritations produced by imperfect teeth and improperly fitting dental plates. They can also help by referring cases of cancer which they discover to physicians skilled in the



treatment of cancer in this location. It may be doubted whether all dentists fully realize the help which can be obtained from x-ray photographs in revealing not only the state of the teeth but the condition of the bone surrounding them.

12. Medical students should be instructed in cancer by the aid of actual demonstrations of cancer patients, and this to a sufficient extent to give them a good working knowledge of the subject.

13. The most reliable forms of treatment, and, in fact, the only ones thus far justified by experience and observation, depend upon surgery, radium and x-rays.

14. Emphasis should be placed upon the value of the dissemination of the definite, useful and practical knowledge about cancer, and this knowledge should not be confused nor hidden by what is merely theoretical and experimental.

15. Efforts toward the control of cancer should be made in two principal directions: (1) the promotion of research in order to increase the existing knowledge of the subject, and (2) the practical employment of the information which is at hand. Even with our present knowledge many lives could be saved which are sacrificed by unnecessary delay.

### Eye Sight Conservation

To stimulate interest in the conservation of vision, now recognized as of paramount importance, the Eye Sight Conservation Council of America, Times Bldg., New York City, has issued a publication containing a wealth of material for lectures.

The publication, styled "Bulletin 5," is addressed chiefly to those who have the opportunity to spread the gospel of eye care. "Lantern Slides and Lecture Material on Eyesight Conservation" is the title which describes the content.

The need for conservation of vision is asserted in a carefully written introduction which outlines a serious existing situation, its causes and the necessity for organized action. Facts are presented to show that the eyesight of the American people is a source of moral and physical weakness. Modern life is pictured as imposing new burdens upon the eyes, yet unable to meet these exacting demands. While the discouraging factors are frankly pointed out, the point of view of the publication is conservative, and even optimistic.

are getting alarmingly worse—they probably always have been bad—but we must learn how to use them and not misuse and abuse them," it is declared.

It is a fact, according to this publication, that a large proportion of the human race have defective vision, most of which is remediable. A lack of knowledge of the prevalence of this condition and lack of proper eye care are, it is stated, in a large measure responsible for much suffering and inefficiency.

How to carry the message of eye care through protection, correction and proper lighting to the masses is a problem which the Eye Sight Conservation Council of America through "Bulletin 5" has greatly simplified for teachers, health workers and members of other professions who by vocation or training are in a position to render a helpful service to society by delivering lectures before groups of pupils, teachers and parents, before civic clubs and kindred organizations.

After showing that millions of school children are at a disadvantage because of poor eyesight and that sight is an important factor in accident prevention, the publication stresses the value of good illumination, and groups other facts as persuasive arguments for eyesight conservation.

The physiology of the eye is treated so clearly that the lecturer will have no difficulty in conveying the fundamentals to an audience. Optics are taken up at considerable length. The publication is profusely illustrated throughout. There are illustrations of 145 lantern slides, each accompanied by descriptive text and data. Defective vision of school children, defective vision in industry, vision test laws for school children, eye protection, the use of goggles, glare, accidents from improper lighting, and school, home and factory lighting are dealt with in a rich background of facts for teachers and lecturers.

"Eye Sight Stories" for children are charmingly written examples of how the young can be taught to realize the worth of sound vision. Anecdotes of great men impart a touch of romance to the stories, one of which brings out that Roosevelt's first gun helped him to discover his defective eyesight and thus aided him in building up the vitality of mind and body which became a by-word and an inspiration to the American people.

Eye Sight Conservation Bulletin No. 5 will be sent to any interested person for 40 cents, which is merely to cover printing

be rented or purchased of the Council at a nominal rate.

The appendix contains material for speakers and general writers and emphasizes such themes as errors of refraction, development of the eye, reading in bed, eye strain and eye fatigue, effect of motion pictures on the eyes, eyesight and production, sight and safety, eye strain and output, eyesight of garment workers, tests for efficient lighting and paper glare and book type. Authorities in this and other countries are quoted in support of the general thesis of the publication that eyesight conservation is a national problem which can no longer be safely ignored.

"Saving eyesight can be made intensely absorbing to any audience if the proper material is presented in the right way," it is declared.

The speaker should not try to be so instructive that he fails to be interesting, cautions this publication, by the use of which it is possible to be both.

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### The Commonwealth Fund

The Commonwealth Fund, the philanthropic foundation established by the late Mrs. Stephen V. Harkness, is making studies in eleven northern and midwestern states for the location of the third rural hospital to be constructed under a new cooperative program initiated by the Fund last February. Farmville, Va., has been chosen as the location of the first institution under this program and Henry J. Southmayd, director of the Fund's Division of Rural Hospitals, 1 East 57th Street, New York City, also announced today that the contract for the construction of the Farmville hospital has just been signed. Several hundred communities have been considered for the location of the second hospital unit, which will also be placed in a southern state, and the final decision will be made in the near future.

In planning the location of its third hospital, the Commonwealth Fund is now corresponding with county medical societies and chambers of commerce in a large number of northern and midwestern cities of less than ten thousand population. The program under which the gift will be made contemplates the construction of two rural hospitals every year. In the case of approved applications the fund contributes two-thirds of the cost of construction and equipment while the local community must contribute one-third, and in addition meet

the cost of operating and maintaining the hospital.

The Commonwealth Fund of which Edward S. Harkness is president and Barry C. Smith, general director, was chartered in 1918 as a philanthropic foundation to carry on a wide range of activities for the general welfare. In addition to her initial gift at that time, Mrs. Harkness made several subsequent donations which increased the capital fund to \$38,000,000. Child welfare, health and educational projects have constituted the principal activities of the Commonwealth Fund which also announced last year the establishment of twenty annual fellowships for British students in American universities.

In undertaking its new program for the construction of rural hospitals the fund desired to assist in improving conditions affecting public health and medical practice in country districts. It was convinced that rural communities, despite certain natural advantages, frequently afford a less satisfactory opportunity for healthful living than many of our cities. While the causes of such conditions are numerous and complex it would appear that the lack of a sufficient number of competent physicians is a contributing factor which in itself has many causes. In this connection there is general agreement that in many rural communities the physician finds little professional incentive either to establish himself or to remain. The preliminary surveys made by the Commonwealth Fund, as well as other similar studies, have shown that the lack of a modern and well equipped hospital has often meant retarded medical progress and inadequate public health work in many rural communities. It is in the hope of contributing toward improving the conditions of health and medical practice in at least a certain number of such communities that the Commonwealth Fund has undertaken to assist in the construction of rural hospitals.

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### Travel Study Club of American Physicians

At the completion of its recent European study tour the Travel Study Club of American Physicians elected Dr. Fred H. Albee of New York as president, Drs. Edward B. Heckel of Pittsburgh and John P. Lord of Omaha as vice-presidents, and Dr. Richard Kovacs of New York as secretary.

Plans are being prepared for the next study trip, including the central European countries: Germany, Austria, Czechoslovakia, Hungary and Italy.



## Classification and Treatment of Chronic Arthritis

As the result of careful clinical study of 612 cases of chronic arthritis, Russell L. Cecil and Benjamin H. Archer, New York (Journal A. M. A., Sept. 4, 1926), make a clinical classification of this disease: proliferative arthritis; degenerative arthritis; gout, and intermittent hydrops articuli. Two types make up the great bulk of the material, chronic infectious arthritis, and arthritis of the menopause. Arthritis of the menopause is a chronic degenerative polyarthritis occurring in obese middle aged women at, or just after the menopause. In a series of fifty cases of menopause arthritis the average age was 52½ years. In almost every case the patient was considerably overweight. Symptoms usually appear during the first two years after the menopause. Sometimes the arthritis occurs simultaneously with the menopause, and in a few cases the rheumatic symptoms have preceded the change of life by a short interval. Foci of infection are rarely demonstrable, and for this reason we question very seriously the infectious origin of the disease. The morbid changes are those of a degenerative osteoarthritis. The cartilage becomes thin, and there is lipping and spur formation of the bone at the margins of the joints involved. Occasionally there is a secondary thickening of the synovial membrane. The onset of the disease is insidious. The first symptom is a slight stiffness in the knees, which gradually becomes more noticeable, especially in walking or bending. In the series of cases studied, both knees were usually affected. Sometimes, however, the symptoms were more marked in one knee than in the other. The lumbar vertebrae and the bones of the feet are often involved. In a large percentage of patients there are well developed Heberden's nodes on the distal phalangeal joints. At times, a shoulder or hip joint may be implicated. The physical appearance of these patients is quite characteristic. They are almost always overweight, sometimes to a marked degree. The posture is faulty, and there is usually some degree of flat-foot. Examination of the joints involved shows little, if any, swelling, but in cases of long duration, the heads of the bones adjacent to the joint may be enlarged. On flexion, a certain amount of crepitus is usually detected. Roentgenograms show distinct lipping and spur formation. True ankylosis does not occur. The progress of this type of arthritis is very slow, but with the passing

years the patient's discomfort becomes more marked. There is little tendency toward involvement of other joints. On the other hand, spontaneous recovery seldom, if ever, occurs. The most important part of the treatment is reduction of the patient's weight, which is best accomplished by a low calory diet consisting chiefly of green vegetables. Iodides and thyroid extract are also of value. Cecil and Archer usually give these patients syrup of hydriodic acid, 1 drachm (4 cc.) three times a day after meals. The thyroid extract is pushed to the limit of tolerance. Physiotherapy, especially diathermy, gives much relief. A few of the patients have been benefited by colonic irrigations, a fact which suggests that the disease may be referable in some instances at least to an intestinal toxemia. Ovarian extract has been of no value. Streptococcus vaccine in a considerable number of cases has been without any effect. Proliferative arthritis occurs most frequently in young people. The commonest form of proliferative arthritis is associated with focal infection about the teeth or tonsils. The proliferative type of chronic arthritis is presumably an infectious process. The essential feature in the treatment is the removal of all foci of infection.

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## Use of Colloidal Lead in Treatment of Cancer

Francis Carter Wood, New York (Journal A. M. A., Sept. 4, 1926), reviews the work done by W. Blair Bell with colloidal lead in the treatment of cancer. Believing that the trophoblastic cells are biologically closely correlated with tumor cells, Bell began in 1920 the treatment of human cancer by intravenous injections of lead in colloidal form. Other colloidal metals were tested and found not to be as specifically destructive of the chorionic epithelium as lead. The colloidal form of lead was selected because various lead compounds when tried were found to be highly toxic to the patient and relatively ineffective on tumor cells. The preparation that he uses is a Bredig colloid in 0.4 per cent aqueous gelatin with the addition of 0.027 per cent of calcium chloride. The final product is centrifugalized to get rid of particles larger than 0.2 micron, is made hypertonic by the addition of sodium chloride, 1.1 per cent, potassium chloride, 0.05 per cent, and calcium chloride, 0.05 per cent, and is then sterilized by boiling. The preparation is black or gray, depending on the amount of

hydroxide or carbonate that it contains. After two or three days it becomes toxic and must be rejected. The strength is checked by a colorimetric method, and injections made intravenously in quantities not to exceed 0.1 Gm. of lead per dose. During the two or three months that are required for the treatment, about 0.6 Gm. of lead is given. There are certain points in the selection of patients that have been found to be important. All those with nephritis, even of slight grade, must be rejected, as anuria is apt to follow from the toxic action of the lead on the kidney structures. Obstructive jaundice must be relieved before treatment can be begun. Metastatic involvement of the brain is a contraindication. Extreme anemia and cachexia also are contraindications. With large tumors, it is important to remove as much as possible of the growth by surgery in order to make a more favorable partition of the lead between the normal tissues and the tumor. Roentgen rays may also be employed in conjunction with the lead treatment, and one of the advantages of such therapy is that the effectiveness of the roentgen ray seems to be somewhat increased by the toxic action of the lead. In superficial growths, direct insertion of lead into the tissues by ionization seems to be of benefit. Following the injections, a sharp anemia not infrequently develops, and resort to transfusion may be necessary to counteract this. During the course of the treatment frequent urine analysis must be made to see that no nephritic insufficiency has developed, and a daily study of the blood is important. If stippling of the red cells becomes very abundant, the treatment may have to be interrupted, for this is one of the early indications of the dangerous toxic action of the lead. But the treatment of malignant growths by this method is not merely one of the injection of so many decigrams of lead at fixed intervals. Success depends far more on the most careful clinical study of the patient, watching for obvious symptoms and controlling the use of this highly dangerous remedy with knowledge obtainable only by clinical experience. Out of 227 patients that have been treated, fifty have lived from one to five years in a completely arrested stage, and that all these patients at the time of treatment was begun were in a hopelessly advanced stage of the disease. Interesting pathologic lesions are demonstrable after the injection

In animals, at the end of twenty-four hours, thrombi are abundantly present in the tumor capillaries. Such thrombi remove nutriment from the area of tumor which the vessel feeds, and necrosis follows. Absorption succeeds this necrosis and the tumor shrinks, thus relieving the tension on the tissues. Usually there remain about the periphery of the tumor a few growing cells, and from these a recurrence may take place unless the dosage of the lead is large and repeated injections are given. If the dose is pushed to the lethal limit and repeated every week for from three to five doses, a certain number of the tumors are apparently completely destroyed. The spleen and bone marrow in animals show considerable injury, as would be expected, and this is reflected in the human patients by the marked anemia that often occurs during the course of treatment. After a number of doses the animals also show the effect of the action on the hematopoietic system by the development of a marked anemia, and extensive morphologic changes in the red cells. Some of the most interesting lesions are found in the liver, even with very moderate doses of lead. With large doses approaching the lethal, or still larger, the liver shows very extensive lesions. The lungs show no thrombi or other changes. Moderate swelling of the epithelium of the kidney tubules may occur. Only when large doses are given is the complete destruction of the tubular epithelium witnessed, such as is seen in the fatal human cases. Wood says that when tumors are given 80 per cent of a lethal dose of roentgen rays immediately after a single nonlethal dose of lead, no effect is produced. But if the lead is administered several times, even if the tumor does not recede under the action of the metal, from 80 to 90 per cent of a dose of roentgen ray lethal to the kind of tumor used will cause some, but not all, of the growths to recede. In general, Wood's experimental work confirms that of the similar investigators in the field that colloidal metals produce marked injury to the capillaries of tumors, with thrombosis and subsequent hemorrhage and necrosis of the growth; that this vascular injury may extend to the larger vessels if repeated injections are given, as Weil found with colloidal copper; that in order to produce serious injury or complete the destruction of an animal tumor, the dosage must ap-



lesions, probably because of capillary injury. It is probable that the lead, as with other particulate matter, is taken up by the reticulo-endothelial system, then assumes some soluble form, and exerts its toxic action on the cells of this system and subsequently on those of the neoplasm.

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### Chronic Nonspecific Infections of Lungs

The indications for bronchoscopy in the treatment of chronic pulmonary suppuration are summarized by Chevalier Jackson, Philadelphia (Journal A. M. A., Sept. 4, 1926). In chronic pulmonary abscess, bronchoscopic aspiration is indicated to prevent stagnation. In all chronic cases, natural drainage by cough and ciliary action is inefficient; that is why these cases have become chronic. Bronchoscopic aspiration would have been prophylactic. In cases of pulmonary abscess of other than foreign body origin and in which the pediatrician, the surgeon and the roentgenologist deem external drainage advisable, bronchoscopic drainage is not indicated. Sometimes, after a thoracotomy, the surgeon has called on his bronchoscopic assistant to restore bronchial communication for ventilation and natural upward drainage of secretions from an isolated sealed up area of lungs; and in other cases to treat residual suppuration areas. Many cases of chronic lung suppuration in children have resulted from mistaking the asthmatoïd wheeze of foreign body for bronchial asthma. In bronchiectasis, as Dr. McCrae has said, "bronchoscopy is of value when used early; but *early* must be stressed. This means early diagnosis, which is very rarely done. We may be able to prevent advanced bronchiectasis by early recognition and prompt bronchoscopic treatment." In every case of pulmonary suppuration, foreign body should be excluded. It is just as important in a case of lung suppuration to exclude foreign body in the esophagus as in the air passages. These two facts should be deeply impressed on the medical student. When a foreign body is present, peroral bronchoscopic removal is the only method of treatment worthy of a moment's consideration.

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### Sensitization

Proteins in the food or even floating in the air are capable of causing no end of trouble to people who are sensitized to them. And this is an alarmingly common experience. Protein sensitization has leaped into prominence as a pathologic entity within

the past decade or two. Prior to that time it was scarcely suspected. Now the two questions which patients and physicians are asking are: What particular protein is it that is responsible for the symptoms? And: What can be done about it?

Attenuated protein extracts are available for testing individual susceptibility. They come in powder, liquid and paste form, but are in all cases intended for subdural or epidermal application. Placed just under the outer layer of the skin, they excite a definite reaction when the patient is sensitized to the particular protein represented in the extract.

The ideal extract for the purpose is one that is, in the first place, reliable, and, in the second place, easy to apply. The diagnostic pastes offered by Parke, Davis & Co. strike us as a commendable line; the only apparatus the operator requires is a needle and a few sterile toothpicks. See the Parke, Davis & Co. ad in this issue.

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### Classification of Mercurials

The A. M. A. Chemical Laboratory has attempted to work out a method of laboratory investigation and classification of mercurials. A method of evaluating the ionization of the mercury in mercury compounds used in medicine in the belief that this may have a direct bearing on their local irritant and antiseptic action was determined. This method was a modification of the Dreser yeast method which has been adopted in the new Pharmacopeia as a means of testing the silver protein compounds contained in the book. According to the results yielded with this method, the commonly used mercury compounds fall into four distinct classes from the standpoint of ionization. Expressing this in terms of "Efficiency for equivalent of mercury" with mercuric chloride as unity, the first class comprises mercuric bromide and chloride mercuric potassium iodide, mercuric succinimide, sublimine and metaphen, decreasing in this order from 1.7 units to 0.36 unit. In the second class come the freely ionizable compounds with correspondingly mild irritation; mercuric oxy-cyanide, cyanide and benzoate, and merxyl. The third group includes mercurosal and the mercury-flourescein dyes, mercurochrome, and flumerin. In the fourth class come afridol, which does not ionize enough, and mercuric salicylate, which does not dissolve sufficiently to affect the yeast sensibly. (Jour. A. M. A., July 24, 1926, p. 246.)

### What to do for Burns

The most important requisite in the treatment of burns is *relief from pain*. Another important factor is the prevention of infection. There is only one chemical compound which, in a single remedy, accomplishes both of these purposes. Butesin Picrate combines the analgesic, pain relieving properties of Butesin, a practically non-toxic local anesthetic of the same type as anesthesin, but two to four times as powerful, and the antiseptic action of picric acid, which in itself has always been a popular medicament for burns.

Butesin Picrate Ointment is a most convenient method of treating burns. The relief from pain is almost instantaneous. There are no sprays or wet dressings. The ointment can easily be applied by a nurse or even by the patient. The use of Butesin Picrate Ointment, for severe burns, makes unnecessary the administration of morphine to relieve pain.

Butesin Picrate Ointment is efficient in first degree burns, as well as in second and third degree types. It should be in all first aid cabinets—as well as in all households—for emergency use.

Many industries are using Butesin Picrate Ointment not only for burns, but for wounds, cuts and abraded or denuded skin surfaces, having found that it permits the earlier return to work of their employees.

Physicians recommend and use Butesin Picrate preparations because they are approved by the Council on Pharmacy and Chemistry of the American Medical Association.

Recent literature on Butesin Picrate Ointment may be obtained by writing the Abbott Laboratories, North Chicago, Illinois.

### Quadriceps Test for Myasthenia of Thyroidism

A test is described by Frank H. Lahey, Boston (Journal A. M. A., Sept. 4, 1926), which is said to be of considerable value in diagnosis of hyperthyroidism based on the well established weakness of the quadriceps femoris in this disease.

The patient sits well forward on the edge of a straight chair and holds the leg out at right angles to the body. In a very few cases of thyroidism of any marked degree of intensity will it be possible for one to maintain the leg in this position more than twenty-five or thirty seconds, while in the majority of cases not affected by thyroid-

ism the leg can, with any real effort, be held in this position for approximately one minute.

### The Defeat of the Streptococcus in Measles, Erysipelas and Puerperal Sepsis

When the announcement was made that the Drs. Dick had shown that scarlet fever is a disease similar to diphtheria in that the streptococcus elaborates a toxin which is the causative agent, medical philosophers predicted that other investigators would soon reveal similar causative agents for related diseases. It appears likely that these predictions are to be realized within the current year. Now Ferry and Fisher report that they have elaborated a skin test for measles with toxin prepared from an organism found in the blood of patients suffering with this disease. Experiments are also being made with streptococci associated with erysipelas and puerperal sepsis and preliminary reports indicate the possibility of similar success.

Moreover other organisms than the streptococcus are being studied with relation to toxin production, notably the staphylococcus and more recently the tubercle bacillus. If these investigations are confirmed, it may well be that the present decade will pass into history as the one that saw the streptococcus defeated by medical science.—Jour. A. M. A., Mar. 27, '26.

### Report of the Therapeutic Research Committee of the Council on Pharmacy and Chemistry

During the past year the Committee has concentrated its work on the support of investigations carried out in schools and laboratories of recognized standing by supporting investigations for which small grants were needed to purchase material and apparatus. Fourteen eligible problems of high quality were submitted.

The Committee appropriated two thousand and three hundred and seventy-five dollars. Six papers were published during the year and a number are almost ready for publication.—Jour. A. M. A., Mar. 20, '26.

A prominent surgeon was bewailing, to one of his staunch supporters, the lack of diagnostic ability among the physicians in his territory, and illustrating by some of the cases brought to him. His listener said: "Well, Doctor, most of what you know you learned off of my patients."



### Report of the Council on Pharmacy and Chemistry

During the past year, the Council has carried forward its work of informing the medical profession in regard to proprietary medicines which physicians are importuned to use. The work of this body of trained men who labor untiringly and without remuneration in the cause of rational and scientific medicine deserves wider recognition and acceptance. It will receive this when physicians recognize more generally the fact that those who compose the Council have the needed specialized training to enable them, better than the average physician, to form a correct estimate of the many new medicaments appearing each year. The council publishes the annual New and Unofficial Remedies which describes the medicine of the Council. Products not accepted are reported on in the annual reports of the Council and these reports are collected in the Propaganda for Reform in Proprietary Medicines. In addition the Council publishes the Epitome of the U. S. Pharmacopeia and National Formulary and the boog Useful Drugs.

While the Council has brought about a revolution in the field of therapeutics, much

remains to be done. The success of the further endeavors of the Council will depend largely on the support which is given by the rank and file of the medical profession. Support can be most efficiently given by physicians and with full justice to themselves and their patients by confining their use of proprietary medicines to those which have been found acceptable for inclusion in New and Nonofficial Remedies.—Jr. A. M. A., Mar. 20, '26.

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### Radon (Radium Emanation)

It has been reported that the intravenous injection of long lived radioactive elements or the internal administration of radium, mesothorium or radiothorium is highly dangerous on account of the delayed harmful effects. This is due to the deposit of insoluble particles of these elements in the storage organs, namely the bones, spleen and liver. These possible dangers apply to the administration of solutions of radium salts, but not to the ingestion of water charged with radium emanation (radon) since this is eliminated rapidly, the elimination being practically complete in the healthy individual in twenty minutes.—Jour. A. M. A., Mar. 20, '26.

## Grandview Sanitarium

KANSAS CITY, KANSAS

The Grandview Sanitarium was completely destroyed by fire. Fifteen years active work in the sanitarium business enabled us to know our needs for the future. We have planned, built and completed what we believe to be an ideal place and are open and ready for business. Thanking our friends for their patronage in the past and assuring you we are prepared to give as good service as can be had in any sanitarium, we remain,

Very truly yours,

E. F. De VILBISS, M. D.,

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# THE JOURNAL

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### The Improvement of Functional Results After Fractures

H. WINNETT ORR, M.D., F.A.C.S.,  
Lincoln, Nebraska.

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, May 4-6, 1926.

The results obtained in the treatment of fractures have long been considered, both by those inside and those outside the profession, to be a matter of reproach to us. At the time in 1917-1918 when candidates for military service were being examined in the first draft, 11,000 men of the first one and one-half million examined were rejected because of disability after extremity fractures. This did not include men with amputations and some others such as certain of those with foot disabilities whose physical defects were also caused by inefficiently treated fractures.

Since the use of the x-ray has become more general and with a general application of our experience in the World War the treatment of fractures is better than at any previous time. It may certainly be said that it is much more common that healing of fractures with the injured limb in good length and fair line is obtained. Public opinion both in and out of our courts is insisting that end to end position shall be obtained more often than was formerly the case.

At the present time therefore there is the opportunity for us to take further steps forward in the treatment of fractures. It is not so important, I think, to discuss the relative merits of various splints or the use of the open or closed methods. Whether these methods are reliable and safe or not, depends almost entirely, I think, upon the skill and experience of the surgeon by whom they are used.

The important thing to bear in mind is that correct length and line must be obtained as early as possible and that the injured parts (whether the fracture is simple or compound) must be immobilized until healing has occurred.

The motion picture film which I shall show you is designed to illustrate a method

of applying fixed traction in plaster of Paris which almost absolutely satisfies these fundamental requirements. Also, I shall show you patients in action who will prove that it has been possible to maintain adult patients—even old people—in plaster of Paris for a long time after bone and joint injuries and that they still have good motion in the joints adjacent to the injuries.

It is desired to point out that good function following fractures depends largely in addition to the points already suggested, upon three things:

1. Correct alignment of fragments as regards rotation; for example, an externally or internally rotated knee after femur fracture makes a lame patient no matter how well he looks in x-ray.

2. Complete immobilization until the fracture has healed.

3. Correction of faulty union or faulty alignment for all fracture patients even if they are seen late after the injury.

This last comment applies especially to wrist and ankle fractures which cause much disability because we do not have the courage to manipulate and correct malunion after healing in bad position has begun.

Much of our splinting is inefficient. Stiffness of joints after fractures is commonly blamed on prolonged splinting. As a matter of fact good immobilization even if prolonged, will tend to reduce rather than increase stiffness. Of course, the splinting and bandaging must always be applied in such a manner as to control the part as a whole. The bandage that is put on in an attempt to control fractured fragments by constriction at the point of fracture can do, and often does, much harm. This point must always be borne in mind.

It is always important to maintain immobilization until healing of the fracture is well established. Much harm has been done in the effort to mobilize adjacent joints during the course of fracture treatment. If there are inflammatory complications of a fracture, whether simple or compound, irritative motion and disturbance of the fixative apparatus will almost always aggra-

vate the inflammation and in the end, increase the amount of stiffness or ankylosis.

In the compound fracture and in simple fracture with injury to the soft parts inflammation can be kept under better control by getting the parts in correct position and by prolonged careful immobilization (and there will be less ultimate stiffness) than by any plan of early motion or elaborate wound treatment whatever.

Finally it will be found that even in the late treatment of both simple and compound fractures correction of deformity can be done and much better results obtained if at any stage wounds are cleaned up, the injured parts lined up as to length and position and the same principles observed.

In other words, at whatever stage these patients are seen, whether early or late, the parts are to be placed in good position, wounds are to be made as clean as possible and then all of the injured parts (including the wounds also) are to be immobilized and protected during the period of healing.

If all methods applied to the treatment of fractures can be made to follow the principles of correct position, immobilization (or rest) and protection until the appropriate time (healing) for the resumption of function, our results will be still better than they have been.

—————B—————

### Fractures of the Shaft of the Femur

RICHARD S. HAURY, M.D., Newton, Kansas.

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, May 4-6, 1926.

Fractures constitute a formidable part of a surgeon's work. In no department of surgery does the demon of malpractice threaten so grimly as in fracture treatment, making fixed authority on which to lean a matter of serious import. Some of the questions confronting him are: Does the broken bone ever become as strong as it was before? If the patient is a laboring man, will he come back to his full wage earning capacity? Will there be much shortening, deformity or possibly even non-union? Just what method of procedure shall we follow in any given fracture?

In the matter of handling fractures there are enthusiasts, as there are in every line of surgical work, who endeavor to reduce all fractures by some set method, and they proclaim its value. One man with a large fracture practice will insist that all fractures should be treated by the closed method, for he believes that any frac-

ture not compounded, can be reduced and retained in proper alignment and properly handled with good results by simple manipulation and application of splints of some sort or another. Then there is the other enthusiast, going to the other extreme, who would cut down on all fractures and after properly apposing the ends, retain them in situ by some substance, autogenous or foreign. Therefore we face the question: Shall it be the open or the closed method of treatment? Opinion on this question has changed from time to time.

The advantages of an open operation as experienced by those doing much open work treatment are: The relief from pain which was caused by any movement of the fragments upon one another is to be noted. They free the patient from the tension and discomfort due to the extensive extravasation of blood between and within the tissues. They shorten the period during which he is incapacitated for work since union is practically by first intention, and consequently very rapid and perfect. They leave the patient's skeletal mechanics in the condition in which they were before he sustained the injury. My policy in treating fractures of the shaft of the femur is to avoid cutting down to the site of the fracture unless other recognized methods fail to secure the satisfactory apposition. This does not mean that it is an absolute requirement to get complete anatomical alignment. There are cases where it is better not to resort to open operation when we are reasonably certain that one has a right to expect good functional results even without absolute anatomical apposition. Many cases falling in this category have good functional results even though the roentgenograms demonstrate that only about three-fourths apposition was secured by reduction, the callus bridging over the gap and making a strong and useful limb.

The World War has taught us better methods of handling these fractures, and the literature upon this phase of surgery has been enriched by men inspired by the abundance of material the World War occasioned. Many a surgeon has benefited by this material who has not had the advantage the fracture clinics afford in larger clinics of our cities.

In femur fractures of children without much displacement, reduction under anesthesia and plaster cast application is all that is required for good results. In others I employ suspension and traction. Never have I been compelled in the case of chil-



dren to use the calipers or other methods of skeletal traction. In one late case, a child eight years old, with a fracture at the upper and middle third of the femur, an open operation was necessary in order to remove periosteum and fascial shreds in order to get apposition.

Let us, before we proceed any further, sum up the ideas of the fracture-treatment enthusiasts or specialists. Recognizing their statement as a fact, we can still glean the best from the various methods and perhaps develop ourselves to a point slightly beyond the average, gain a wide horizon, and permit the individual case in each fracture to determine for us the special method of procedure. Without opportunity to develop special skill in any method, we must not limit ourselves to any one in particular.

It may rightly be stated that no two fractures are alike. Visualize twenty fractures of any given part of the body as shown by roentgenograms and observe how different they are. For instance, in femur fractures, we may have the simple fractures of the shaft without much displacement or shortening, or there may be a great deal of overriding or deformity, or we have this great deformity with the bone comminuted which often complicates the condition. Another shows great deformity and shortening with one or both fracture ends rotated one upon another, with possibly some soft tissues caught between the fractured ends. Finally the compound fractures which are a class by themselves and require a special method of handling.

I think that practically all are agreed that an open operation should not be undertaken until more conservative methods have failed, or in cases where, for one reason or another, it is at once quite evident that the recognized conservative methods will prove futile. Generally speaking there are three methods of treating fractures of the shaft of the femur now at our command. Immobilization by traction, and suspension; immobilization by plaster of Paris, or other methods of splinting; immobilization by the open method and internal fixation. The advantages of traction and suspension are that the patient is fairly comfortable. It permits as a rule constant x-ray re-examination. It permits early motion of the neighboring joints and early massage. It should, but rarely does mitigate the atrophy consequent upon disuse of the affected limb. The disadvantages are: It confines the patient to bed during the entire course of the treatment; it requires a sound and comprehensive knowledge of mechanical principles;

it is entirely at the mercy of any one coming in contact with the patient, doctor, nurse, orderly or visitor, and very largely at the mercy of the patient himself. Take off the weights from a femur, which was in good apposition and which had two inches of shortening with a good deal of deformity before suspension and weights were applied, it will at once assume the unfortunate position the fragments were in as a result of the injury. This is an experience one will have every now and then with inadequate follow-up work when this method is employed. The advantages of plaster of Paris are that it is completely under the control of the person who applies it. Once properly applied, there is little if any thing further to be done until the time comes for its removal. The greatest advantage is that unless it envelopes too much of the patient, it permits him to get about on his feet or on crutches as the case may be. Patients for example wearing the long body spica applied for shaft fractures, can if they desire, walk about with crutches. The muscular exercise so permitted is of much value to the circulation in the limbs, and the mental effect upon the patient is often most important, particularly in the aged. The weight of the plaster is usually much exaggerated.

The disadvantages of the plaster are that if it is improperly applied it is useless or possibly dangerous, or so uncomfortable that it is impossible to wear. The picture of Volkmann's ischemic paralysis should constantly be kept in mind. It is almost impossible to use plaster in connection with wounds, as in war surgery. If it remains in place over long periods a varying amount of joint stiffness may ensue. Although it is the custom to speak of plaster causing atrophy of muscles, I do not believe this statement to be true. It is the disuse incidental to the injury, that necessitated the application of the plaster which causes the atrophy.

In the cases with mere shortening and deformity, suspension and skeletal traction is a method of choice in my practice. It is gratifying to observe the results in these cases when this method is properly used. I believe the world over this method of treatment is receiving more recognition, and many open operations might be avoided if this method were employed. There is no question that the most accurate reduction and fixation is secured by the open method operation. However, experience shows that this is not always necessary to secure good functional results. Even the old dictum

that two-thirds or three-fourths apposition of the broken surfaces must be obtained, does not hold good any more. With skeletal traction there should rarely be any trouble in correcting the shortening, but we seldom overcome the displacement. If the bones have only single contact, and any interposition of soft parts is surely excluded, we can constantly expect solid union in a relatively short time. It is indeed a drawback of the plating operation, that because the fixation is too great and does not allow the slightest movements of the fragments the formation of callus is slow and poor; on the contrary with the skeletal traction method, while the shortening and overriding is constantly prevented, small lateral movements of the fragments are possible, which greatly stimulates the growth of callus as shown by x-ray. It does not always follow that with skeletal traction we can confidently correct any shortening. There is, however, an exception to this, the comminuted fracture. In comminuted fractures there is a possibility of great shortening even with the skeletal traction method, as much shortening as three-fourths to one inch. But even in these cases there is great danger of an open operation being followed by a large defect in the shaft of the femur on account of a deprived blood supply to the comminuted fragment, and finally death of bone. Therefore we do not feel that shortening in comminuted fractures of the shaft of the femur should incriminate the skeletal traction method. Another point in favor of the skeletal traction method is that in many cases there is no anesthesia required, and that there is practically no danger of infection with good care, and also that it does away with the long standing sinuses, apt to occur after a plating operation, which often keeps the patient incapacitated so long.

The open operation on the femur should be reserved for late cases where the traction has failed or has not been properly applied, or in cases with interposition of fascia or muscles. In ordinary fresh cases the traction method on an adjustable inclined plane is a method of choice. The compound fractures of the shaft of the femur are a class in themselves, and the time allotted for this paper will permit only a general outline of treatment. The following points must be taken into consideration:

Immediate inspection of the wound, proper dressing and temporary splinting. The use of every possible means to combat shock, such as morphine, the application of external heat, the subcutaneous admin-

istration of physiologic salines, and blood transfusion. Careful and complete debridement under gas-oxygen anesthesia preferably as soon as the condition of the patient will permit.

Cleansing with Dichloramin T, before closure, followed by complete closure, placing a drain just below the external fascia, which should be removed within twenty-four to thirty-six hours.

For these cases moulded plaster splints and the Thomas leg splint are the most desirable. The kind of splints and apparatus used must vary with the case.

The retention apparatus should be removed as soon as enough callus has formed to prevent slipping of the bone.

#### CONCLUSIONS

The treatment of femur fractures constitutes a very important branch of major surgery, and one that is too frequently neglected. The proper handling of these cases is a much more difficult procedure than are most so-called major surgical operations. Great patience for a long time and close supervision throughout the entire course is necessary with the single thought in mind that saving the limb is much more difficult than its amputation.

—B—

#### The Problem of the Crippled Child in Kansas EDWIN D. EBRIGHT, M.D., Wichita, Kansas

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, May 4-6, 1926.

The first thing necessary in a discussion of this subject is to discover whether the crippled children of Kansas constitute a real problem and if there is such a problem whether we or any one have a sane practical program to offer that will afford any relief.

Every disease or illness presents a problem. What we mean by a problem in this connection however, is the presence of a disease unusual in severity, where the facilities are inadequate and followed by bad results due to our inefficient handling of such cases.

This is an age of paternalism and altruistic efforts for suffering humanity whether humanity desires it or not. Some of the causes and some of the efforts are worthy and good and some are extremely silly. Crippled children are too real and their helplessness too heart gripping to have anything to do with ill chosen schemes or insincerity. If there is anything we can do to help them we want to know how to do it without all the energy being expended in running the machinery.



We think it very pertinent to remark here that the advancements and accomplishments of the medical profession dealing with the physical well being of society have on the whole, been very sane and have been brought about without resorting to new laws or to coercion of any kind. And it might be well to repeat at this time the trite but true statement that few evils of whatever nature have been corrected by laws. And national advance of any civic betterments of any personal virtues that are the result of restraining laws, have counted but very little in the evolution of the human race and any argument to the contrary is demagogic twaddle.

It might be well also to recognize the fact that practically all our charities and all our social programs that have to do with the material well being of our less fortunate citizens are built on the foundation that the medical profession can be depended on to furnish the real curative factors in the problem without cost, leaving to the spectacular and paid lay secretary the front page of the newspaper and the red fire.

We often forget this ourselves and the laity seem never to have known it or at least never seriously thought about it.

There are in Kansas at the present time about five thousand cripples, and every year a large number is added to the list. These are of all grades of severity and represent all the types of disease that come under the care of the orthopedic surgeon. With the exception of those more serious paralyses resulting from polio-myelitis a very large majority of these, under proper treatment, either can be cured or sufficiently helped to the extent that they may become self supporting. Congenital hips, club feet, bow legs, and knock knees, and even lateral curvature of the spine and tubercular joint diseases fall in this class. And even in the polio cases we are not entirely helpless, for much can be done for the victims of this disease both in the early stages and later when permanent deformities and paralysis have occurred. With those children fortunate enough to be born in homes free from financial worry, we need feel no great concern. Unfortunately the majority of such cases occur in families where the finances will not permit the long and expensive treatment necessary if the best results are to be had. It is for those poor helpless crippled children who will remain cripples unless some one helps them, we are appealing. Wealth has nothing to do with ones value to society.

A child is either a costly liability or a

priceless asset. In case of crippled children it is up to us to decide to which class it shall belong.

With the economics of the problem we are not going to occupy your time except to say, no matter how much it costs per patient, it is a matter of economy in dollars and cents to you and to me and to every citizen of the State who pays taxes to see that every effort is made to take these children out of the crippled class and put them among the self supporting members of society.

Realizing the importance of the problem and the fact that these children have not been getting a square deal, societies have been formed in several states to aid in the work. New York, Iowa, Ohio and Oklahoma have been active, and have set a standard that it is hoped other states will follow.

Recently a Society for Crippled Children has been organized by public spirited laymen in Kansas and already the effect of their work is apparent. Later it is hoped that the interest in the work will make it possible to follow the lead of Iowa and Ohio and Oklahoma by having the legislature pass a law that will allow these children to be properly taken care of.

As remarked in the beginning the writer is not in sympathy with the prevalent idea of passing a law to cure every possible ill but this is one law that he is in favor of. It is hoped the profession of Kansas will indorse such a move and urge their legislators to pass this needed reform.

The important feature of the laws now in force in the states mentioned and which we think would be practical in Kansas are briefly as follows:

"Any child in the State suffering from a deformity of any kind, in which there is any possibility of total or partial cure, whose parents or guardians are financially unable to pay for such services can be brought before the county judge, or a juvenile officer and at his order, an examination made by competent physicians who shall report their findings. If it is a suitable case the judge shall order its removal to an orthopedic institution where it may receive treatment, the fees for such services to be paid by the county in which the child resides. There is a question whether this should be done over the protest of ignorant and unwilling parents. Our own opinion is that the child should not be held responsible for such parents but should be given an opportunity to partake in such benefits.

Should such a law be passed and put in operation, the chief responsibility will fall

on the physicians of the state, for it will be upon their report to the judge or the juvenile officer that the disposition of the case will depend.

It follows therefore, that we must not only be in sympathy with the movement, but sufficiently informed in regard to such diseases and their appropriate treatment that our diagnoses and recommendations will be correct.

From the very nature of the cases it is impossible that these children can be treated at home, for the work requires so much detail, so much time and patience and special preparation that the busy general practitioner can not possibly be expected to undertake the work. However, his part in the program is of vast importance.

Our chief purpose in this paper is to arouse your interest in these unfortunate children and to urge that you become sufficiently informed in regard to the importance of early treatment in such conditions so that if such a law should be passed and you are called upon to give your judgment as to the disposition of a crippled child you may be able to advise wisely and for the best interest of the poor unfortunate child.

—R—

### The Malarial Treatment of Paretic Neurosyphilis

WILLIAM C. MENNINGER, M.D., Topeka

Read at the Decatur-Norton County Medical Society, September 15, 1926, Norton; and Golden Belt Medical Society, October 7, 1926, Salina.

Skepticism marks the advent of each new form of treatment in the realm of medicine and its worth must be proved before it is accepted by the profession. This battle is the more intense when it is waged on a battleground where many previous attempts at a successful charge have met a Waterloo. Certainly no disease in the field of medicine has withstood more barrage of therapeutic effort than paretic neurosyphilis.

Previous to the discovery that paresis was a form of syphilis, a great number of diverse concepts were offered to account for its etiology. These supposed causes were usually considered in two groups: one, the moral; and the other, the physical. Attempts at treatment were directed toward prophylactic measures and treatment of the established disease. Prophylaxis included the consideration of hereditary factors, moral and intellectual education, and physical hygiene. The treatment for the disease consisted in venesection, blistering the head, baths, purgatives, and a great variety

of drugs, the only lasting one being mercury.

It was in 1857 when the relationship between paresis and syphilis was first emphasized by Esmarch and Jessen, but it was not until 1913 that the identity of the two was established by Noguchi and Moore<sup>21</sup>, who demonstrated the presence of spirochetes in the brains of paretics, and by Marie and Levaditi,<sup>18</sup> who demonstrated them by dark field illumination in fresh paretic brain.

In 1908 Erlich announced, after thirty years of constant research, that he had obtained nearly ideal results in the treatment of experimental syphilis with arsenic on his 418th preparation. It was not until he had reached the famous 606th substance that he was contented with his product and this was of course only made possible by the closely related researches of Schaudinn, Metchnikoff, Wassermann, Hoffmann, and others concerned in the discovery of spirochetes.

A tremendous literature has been produced concerning the value and application of various treatment methods and preparations in neurosyphilis, the more important of which are:

1. Oral administration.
2. Inunctions.
3. Intravenous injections.
4. Intraspinial injections.
5. Spinal drainage.
6. Intracranial injections.
7. Artificial production of fever:
  - a. By chemical substances.
  - b. By toxaloumins.
  - c. By acute disease.

A great many forms of intravenous medication have been tried, including small doses at frequent intervals, combined treatment with intraspinal drainage, various forms of arsphenamine, and most recently a new arsenic preparation, tryparsamide. The use of arsphenamine alone is used routinely in many hospitals but its results in paresis have not been uniformly satisfactory, and in many places where more recent methods of treatment are available it is used as a supplementary treatment. The new drug tryparsamide has found a large number of advocates, particularly in this country.

### HISTORY OF MALARIAL THERAPY

It was a very old observation which laid the empirical basis of unspecific treatment, that many psychoses are favorably influenced by intercurrent infectious diseases. This was particularly emphasized by Wag-



ner-Jauregg in 1887<sup>30</sup> and in 1889 he attempted to inoculate four patients with erysipelas but failed. He then attempted to use tuberculin<sup>31</sup> in order to produce artificial fever and later a polyvalent typhus vaccine containing live bacilli which had lost their virulence through saturation with immune serum, both of these producing fair results. These two treatments are still valuable in cases which cannot take malaria. He next noted the beneficial effect in paretics following a chronic suppurative disease and attempted to produce suppuration by means of killed staphylococcus cultures, but this was not successful.

Many other observations have been made which were related to this form of treatment: Experimental work<sup>12</sup> has shown the destructive influence of high temperature on spirochetes in vitro. The fact<sup>10</sup> that blood from a non-syphilitic during a paroxysm of tertian malarial fever gives a mildly positive Wassermann reaction suggests that specific immunity reactions are renewed in the tissues of the parietic infected with malaria which not only is destructive to the spirochetes but may result in the arrest of the progress of the disease. It has been pointed out that in the tropical regions of Asia Minor,<sup>29</sup> Central Africa,<sup>14</sup> and China,<sup>3</sup> where malaria is current, primary and secondary syphilis is very frequent, but neurosyphilis, and particularly general paralysis, is very rare. In the study<sup>25</sup> of the histories of five thousand soldiers who acquired syphilis in 1880 to 1890, five per cent were found to have developed general paralysis. Of the patients who had suffered from erysipelas, malaria or other feverish diseases a year or two after their primary lesion, not one had developed paresis.

The first attempts at treatment with tertian malaria were tried by Wagner-Jauregg in 1917,<sup>32</sup> when he inoculated nine patients. One of these cases died with an epileptiform seizure during the fever; two remained unchanged; two showed slight improvement, and the remaining four had complete remissions from two to six months after treatment. In three of these cases the remission had persisted seven years later. He made further trials in 1918 but in his first attempt with four cases, three died because of an error in inoculating them with a tropical form of malaria. He continued his studies<sup>33</sup> with the tertian strain in 1919. Following these initial experiments the publication of results by many other continental writers confirmed his results<sup>7 9 19 22 24 26</sup>. The first report in this country was made

by Lewis<sup>16</sup> et al in October, 1924, at St. Elizabeth Hospital in Washington.

In a personal communication from Dr. Lewis on September 9, 1926, he states that "our good results with malaria still continue and we have just inoculated fifty more." Other extensive work has been reported in this country from Manhattan State Hospital<sup>5</sup>, Massillon State Hospital<sup>28</sup> (Ohio), Mayo Clinic<sup>23</sup>, Colorado Psychopathic Hospital and Central Indiana Hospital<sup>1</sup>.

#### CASE REPORT

The following case from the Menninger Sanitarium illustrates the malarial therapy in the production of a remission:

The patient, a male of 62 years, contracted syphilis about 30 years ago and obtained some homeopathic treatment at the time. He subsequently had a stomatitis and a skin rash and received treatment intermittently from M.D.s but for the past ten years has been in the hands of osteopaths. Three years ago acute mental symptoms developed; he became expansive and talkative, planning to buy everything, enlarge the business extravagantly, etc., and although treatment was attempted he became such a menace to the financial interests of his company that he was taken to a mental sanitarium. There he received weekly injections of neoarsphenamine for about eight weeks. He improved but remained in a phase of depression two months. He went back then to his work, and treatment with arsphenamine has continued intermittently since, his blood Wassermann test receding from 4 plus to 1 plus.

Two months previous to his admission to our hospital, he became increasingly talkative. He decided to take a trip to Los Angeles and on this trip talked freely to strangers, lost his pocketbook containing considerable money, and became noticeably expansive. Three weeks before his admission to our hospital he returned to his home town, and immediately began making suggestions to his local merchants, welcomed strangers to the town, became very talkative, childish and exuberant. He added alcohol to the fire and became very difficult to handle and finally was brought to our hospital.

On admission he showed no unusual physical pathology except nearly fixed pupils, slight ataxia, and overweight. Mentally, he was euphoric, loquacious, and expansive. He would make great lists of names of individuals of his acquaintance from whom he said he was going to get donations for his local church, or whom he was going to take on an European tour, or whom he

was going to send to the sanitarium. He decided to run a matrimonial agency and did a great deal of figuring in the millions of dollars each day. Superficially he seemed intellectually intact, discussing all of the ordinary matters of conversation with considerable ability. However, he became careless about his clothes, obscene in his remarks, frequently masturbated, and seemed increasingly oblivious to his surroundings.

His serum Wassermann was strongly positive as well as his spinal fluid.

Soon after his admission, he was inoculated with 2 cc. from a certain malaria case but the chills failed to develop. Because no malaria was available, we then used trypanamide and he received five injections at five-day intervals, but developed some visual difficulties and although there were no objective changes the drug was stopped and sulpharsphenamine injections substituted. The visual difficulties cleared. He was again inoculated with malaria early in July, but this also failed to induce the fever, and in the latter part of July he was inoculated with certain malaria for the third time. He developed his first chill twelve days after inoculation and was permitted to have twelve chills. The malaria was then checked by intramuscular injections of urea and quinine hydrochloride plus quinine bisulphate by mouth for several days.

The mental status changed spectacularly in that he again became much more cleanly, his expansiveness disappeared, he developed an insight into his condition and instead of constantly objecting to remaining at the hospital he signified his willingness to remain as long as we thought best. He was permitted to go home about a week after the cessation of the malaria and returned to his business. Apparently he is readjusting himself very well.

His serum Wassermann was 2 plus on discharge.

#### INDICATIONS AND PRECAUTIONS

There are fewer contraindications for this treatment than any other form. The duration and stage of the disease, as well as the type, are to be considered and obviously the less advanced the disease the more chance for improvement. It is less likely to succeed in a rapidly advancing, so-called galloping, general paresis in which there is a marked physical and mental downhill course. Results in such cases are poor and malaria seems to hasten the termination. Juvenile general paresis<sup>11 27</sup> has proven more refractory and while there are fewer observations the percentage of beneficial

results is much less. Remissions have been less frequent in elderly cases, consequently the age is of some importance. The best results<sup>20 27</sup> are obtained in the expansive manic-agitated types.

The most important precaution is to obtain the certain strain of malaria. The aestivo-autumnal has been used but it is regarded as being too virulent and should be avoided. A second less important precaution is to determine the possible quinine idiosyncrasy of the patient.

#### TECHNIQUE

Originally the inoculation was made by scarification, but the majority of these cases failed to develop. Subcutaneous injection was then instituted and originally 1 cm. of blood from the malarial patient was sufficient to produce malaria in the paretic patient. The most commonly used technique at present is the use of about 2 to 4 cc. of blood from a donor, injected subcutaneously under the scapula of the recipient. Intravenous inoculation has also been used, 2 cc. of blood usually being sufficient, this method being employed to shorten the incubation period. From five to fifteen per cent of the cases seem entirely refractory to malaria even with repeated inoculations, and approximately an additional five to fifteen per cent do not contract the disease on the first inoculation.

It is difficult to conserve malarial blood in an infectious condition and although some methods have been suggested they are unsatisfactory. If for some reason the malarial blood is not injected immediately after its withdrawal from the subject, it<sup>15</sup> should be kept at 37° C. and not shaken lest the plasmodia perish. Another writer<sup>6</sup> has been successful in inoculating a patient with defibrinated blood kept at 0 degrees C. for sixty-six hours.

#### INCUBATION PERIOD AND COURSE

With the subcutaneous inoculation, the paroxysms of fever develop from ten to fifteen days after the inoculation. The extremes are three days and four weeks. With intravenous inoculation, the incubation period is from three to eight days, with extremes of two to twenty days. The factors which influence this period are numerous, the most important of which are the number of plasmodia and the individual sensitivity and resistance of the patient. It is usually advisable to make the inoculation immediately following a paroxysm.

The paretic patient is permitted to have from ten to eighteen paroxysms of



fever. This depends on his condition as well as his age and the older patients do not tolerate as many paroxysms as younger and more vigorous individuals. Emaciation and other forms of debility are contraindications to the continuance of the rigors over a minimum figure. There are a certain number of cases which react too vigorously to the paroxysms, developing an unusually high fever with each. As a consequence in such cases it may be necessary to check its progress. However, in any case where the outlook seems hopeless, and even in bedridden patients with bed sores, there are workers<sup>10</sup> who recommend malarial inoculation.

In a small percentage of cases the malaria dies spontaneously after a few paroxysms. As a rule there is gradual diminution of the severity of the chills, although in a few cases it may be desirable to moderate their severity by very small doses of quinine by mouth. The female patients are permitted about two-thirds of the number of rigors that the average male patient would be allowed.

#### COMPLICATIONS

As a rule the course is smooth and there are no complications. However, in a few instances severe complications have been reported and a small number of deaths have occurred in which malaria seems to have played an important role. The number of such cases, however, is small and the deaths have occurred in advanced cases of a rapidly progressive nature in which malaria was used as a last resort. In a large percentage of this group death is due to pneumonia or other intercurrent disease, contracted soon after active treatment is terminated.

There are three general groups of complications: (1) Those due to the malaria during the febrile period, (2) Those of syphilis stirred up during the febrile period, and (3) Those noted after the cessation of the malarial treatment. In the first group, the most common complications are delirium and weakness. Delirium is usually not serious although weakness is often very distressing and becomes so severe that it may be necessary to check the malaria. One of the more serious complications is the accentuation of a pre-existing kidney damage which in some instances has progressively advanced to uremia. Jaundice<sup>20</sup> occurs in about five per cent of cases and is regarded by many as an indication for checking the malaria. Other complications noted in various reports include pyelitis, pachymeningitis and myocarditis.

Complications of syphilis, or at least those associated with the central nervous system,

which have been reported, include trigeminal neuralgia, spinal paraplegia, epilepsy<sup>16</sup>, exacerbation of gastric crises<sup>23</sup>, and "lightning pains." The jaundice may be associated with a luetic hepatitis.

Complications following the cessation of treatment are practically absent. Attention has been called to the absence of the spleen enlargement, and remissions of the malaria are very unusual.

#### MALARIA CURE AND THE PUBLIC HEALTH ASPECT

Inoculation malaria differs from the natural variety by its extraordinary quinine sensitivity. This is a new fact brought out by recent work, but it may be due to the fact<sup>36</sup> that we are dealing with a fresh early infection. Were inoculation malaria as resistant to quinine as the chronic form, the patients would remain plasmodia carriers for years and the method would be dangerous to the general population. It is possible to abruptly check the infection at any desired time.

In uncomplicated cases it is usually arrested by quinine hydrochloride or other quinine salts in doses of ten grains three times a day for three days. It is rarely necessary to give it longer. In complicated cases it may be desirable to check the paroxysms even more abruptly by intramuscular hypodermic injections of some form of quinine as quinine HCl or even intravenous injection, although this latter method is rarely used. No difficulty is experienced in checking the paroxysms at any time, and after the course of quinine administration the temperature returns to normal and the parasites disappear from the blood strain. Very few instances are recorded in which there has been a recurrence of the malarial paroxysms after dismissal from the hospital. It is often very difficult to reinoculate a second time and cases in which the paroxysms cease spontaneously are usually refractive to further inoculation.

There are two points relative to the public health aspect of this type of therapy. First, the spread of malaria by mosquitoes from inoculated parietic patients, and second, the inoculation of a presumptive case of general paresis with blood from an unquestioned malaria-inoculated case of paresis (in order to preserve the malarial strain), thus giving rise to the possibility of introducing one strain of syphilis into an individual where it may not have been previously present. In order to protect against the first point, namely the spread

of malaria, special care must be exercised in those regions where anopheles occur to keep the patients carefully screened, although attendants are on prophylactic doses of quinine. However, even definite experimental efforts<sup>2</sup> to transmit inoculation malaria by anopheles was unsuccessful and the workers conclude that the malarial treatment of paresis entails no danger of spreading the malaria by this means. Regarding the second point, the fact that the blood inoculated is taken from a patient with signs of general paralysis and injected into a patient showing only presumptive signs of general paralysis or no clinical evidence of such degeneration, might be objected to by those who regard the various forms of syphilis as being caused by different strains of *spirocheta pallida*. However, numerous investigators<sup>2,3</sup> have noted no complications or evidence of superinfection when this procedure has been carried out. Furthermore it is under very unusual circumstances that the recipient would be other than a clinically diagnosed paretic, and as has been mentioned, some workers insist that the donor have a negative Wassermann test.

#### AFTER TREATMENT

Considerable discussion has arisen as to the advisability of post-malarial antisyphilitic treatment. To date opinion regarding this is about evenly divided. Several writers<sup>8 13 27 35</sup> have noted a rapid decline in the patient's general health when arsenical preparations were given shortly after the malaria. It was originally given for its effect<sup>26 28 32</sup> on the general paralysis. The first has proven to be unnecessary and the second is under debate.

#### CHANGES IN THE BLOOD AND SPINAL FLUID

As with the great majority of forms of treatment of paresis, the clinical results are more spectacular and pronounced than are the changes in the cerebral spinal fluid and blood. In general,<sup>15</sup> no prognostic conclusions can be drawn from the fluid and serum reaction, as there is no parallelism between the physical behavior and the behavior of the spinal fluid and blood. As a rule there is an improvement in the cerebral spinal fluid in most cases. The cell count and the albumin are usually the first to respond and the Wassermann test is more resistant although it changes more commonly first in the blood and subsequently in the spinal fluid. The data pertaining to this portion of the therapy is as yet incomplete and insufficient time has elapsed to determine the actual status.

Very little has been written about the pathological state<sup>16</sup> of the brain and to date only those cases which have died during or shortly after malaria have been obtainable for study. The few cases<sup>16</sup> that have been studied are characterized by the striking insignificance of the inflammatory process and there is a clear contrast between the inflammatory and degenerative changes. The cases afford direct proof that when a clinical remission occurs there is also a parallel regression or stationary condition of the anatomic process.

#### USE IN TABES AND SIMPLE SYPHILIS

In view of the fact that unusual results have been obtained by the malarial treatment of general paresis, the question has arisen as to the advisability of treating pre-paretics even in early and latent syphilis. It is recognized that even the best anti-syphilitic treatment with arsphenamine, etc., will not prevent neurosyphilis. Further, it is known that febrile diseases exercise a favorable influence on the different stages of syphilis and reports are available of the rapid healing of lesions in the primary, secondary and even tertiary stages as a result of erysipelas, typhus, variola and other diseases. Actual experimental work has not been attempted in this field as it has been pointed out that the frequency of primary and secondary syphilis in malarial regions is common, although tertiary is infrequent. As to the prophylaxis of metasypilis, too little time has elapsed to determine its worth.

Practically no mention is made of tabes in numerous reports, but malaria would probably be somewhat effective in this form of neurosyphilis. It is recognized, however, that arsenicals in tabes are much more effective and the disease as a rule is much less acute than general paralysis.

#### THEORIES OF ACTION

The exact mechanism of the therapeutic action of the malaria plasmodium in producing the beneficial effects noted in the course of general paralysis is not thoroughly understood. Various theories have been suggested. The beneficial clinical results would suggest that there must be a corresponding alteration and transformation of the underlying causative agent of general paresis which may be in the reactions of *Treponema pallida* or may be in the various anatomical elements in the brain. The chief theories which have been advanced are the effect of the fever<sup>34</sup> the leucocytosis<sup>22</sup> (which is not constant), a regeneration of



the immunity processes initiated by the malaria<sup>20</sup>, an increase in the body metabolism with the resulting removal of accumulated waste products,<sup>17</sup> an increase in the permeability of the meninges and small capillaries in the brain which permits protective substances from the blood to enter the brain tissues,<sup>4</sup> and the effect of the immune bodies produced by malaria.<sup>36</sup> The fact that there are so many theories only emphasizes our ignorance of the situation, but the absence of the spirochetes from brains of malarial treated patients makes certain some local effect.

## RESULTS

There has been no summary made of cases noted in the literature since last year. At that time the workers at the Mayo Clinic collected a total of 1112 cases from various authors. Of that number 31 per cent were greatly improved, 35 per cent moderately improved, and 32 per cent unchanged. In general we may state that among male paretics of the class admitted to mental hospitals one may reasonably expect a complete remission rate of from 20 to 30 per cent.<sup>10</sup> This should be contrasted to the summary prepared by Lewis,<sup>16</sup> of 1198 cases of general paralysis admitted to St. Elizabeth Hospital in Washington, where 47 per cent died in the first year and 72.7 per cent had died by the end of the second year. In malaria treated cases to date about 20 per cent have died during the first year and a total of between 25 and 30 per cent by the end of the second year. Malaria therapy does not seem to be as successful in women<sup>10</sup> as in men and juvenile cases are even more refractive.

In contrast to the numerous methods of therapy in general paralysis about which there has been a great deal of controversy and diversity of results, malarial therapy has met with almost universal acceptance and much more uniform results. We must remember that paresis untreated is almost without hope and that reports of cures or recoveries of such cases may very justly be questioned as to their genuineness. The advent of the arsenic preparations while far from ideal has been a tremendous boon to primary and secondary syphilis, and perhaps slightly less effective for the tertiary stage. The quaternary form neurosyphilis—has been more resistant and attacks at it with special drugs and special forms of technique have still fallen far short of the goal. The advent of malarial therapy certainly marks the institution of a new principle in treatment and it appears that we

may be about to cross the threshold into a new era in the treatment of syphilis.

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## UNIVERSITY OF KANSAS CLINICS

### Clinic of Dr. E. J. Curran

Department of Ophthalmology.

#### INJECTION OF FLEXNER'S SERUM INTO THE ANTERIOR CHAMBER IN A CASE OF EPIDEMIC CEREBRO SPINAL MENINGITIS, IN WHICH THE LEFT EYE WAS SERIOUSLY INVOLVED. IMMEDIATE RESULTS AND THE PRESENT CONDITION, NINE YEARS AFTERWARDS.

The case which I am about to present to you in this Clinic is an illustration and a demonstration of the fact that many conditions looked upon as hopeless are not always so, if we use proper care and good judgment in our treatment. In the presence of an apparently hopeless condition if our reason dictates that we should use some treatment not applied before, providing that we have, with due deliberation, perfect knowledge and sound judgment of such a treatment in other conditions somewhat analogous, embriologically, developmentally and clinically, come to the conclusion that such an experiment would do no harm, and especially when we are convinced that all other treatment would fail, we are justified in applying the results on our conclusions to the case in question. Flexner's Serum when brought in contact with the central nervous system has proven its efficacy. Therefore it was thought that the serum introduced into the eye may be beneficial.

Case. Female. Age 24. First seen in Kansas City General Hospital, contagious department, in March, 1917. The patient was suffering from epidemic cerebro spinal meningitis. About 8 days previous to my visit, the left eye became blurred and on the following day the cornea and pupil appeared greyish from exudate in the anterior chamber. This increased rapidly until the iris could not be seen and of course this eye was blind excepting light perception. She had had both intravenous and intradural injections of Flexner's Serum by Dr. A. Skoog who was in charge of the case, but the eye was still growing worse. The condition of the eyes found on examination was: Right eye normal. Left eye was much inflamed. The whole of the sclera was red and almost chemotic. The anterior chamber was completely filled with a white or greyish ex-

udate. Atropin had been instilled three times a day during the previous week, but the iris or pupil could not be seen at this stage. The eye felt a little softer than normal, and I should judge about 15 mm. (as measured by McLean Tonometer, 40 highest normal) below that of the good eye, which was probably about 35 mm. and it could be considered normal. It presented a picture of panophthalmitis. It was impossible to determine how far the vitreous chamber or the uvea were affected; but from the field of vision and from our knowledge of what takes place in eyes having this appearance in cerebro spinal meningitis and the end results, it is safe to assume that if not directly affected, it would soon become so. Moreover the softness of the eye would lead one to believe that the condition affected the ciliary body far enough back to involve the vitreous which must have been in such a condition as precedes what we are familiar with as the formation of a cyclitis membrane. As far as we may judge at the present time there may be a cyclitis membrane still present.

The field of vision cannot be tested with great accuracy for as you see the inflammatory membrane over the pupil is too dense for fine tests, as also is the great white opacity in the lower part of the cornea, which was caused by the organization of the exudate in the anterior chamber and subsequent contraction drawing the iris forward so that it is now attached to the posterior surface of the cornea forming a large anterior synechia, involving at least half or the pupillary area of the iris.

The patient's eye when first seen in 1917, in the isolation ward of the Kansas City General Hospital, was prepared by instillations of a 5 per cent solution of cocaine, five minutes apart until four were made. A Knapp knife was passed into the anterior chamber at the cornea-scleral junction and an incision was made 3 mm. in length, with a hope of evacuating some of the exudate, but it was found to be very tough and fibrous. It could be removed in this way, either while the knife was in position or turned at an angle of about 50 degrees from its plane of insertion. The hypodermic needle was then passed through this organized exudate and a little of the aqueous was withdrawn, mixing with 1 cc. of Flexner's Serum already in the barrel, and this mixture was injected into the anterior chamber till the eye became plus normal in tension. Under ordinary circumstances where there is such a large opening through the cornea this could not happen without



losing aqueous. The aqueous was behind the exudate and could not escape.

The point of the needle in this case went through the partly organized membrane through which the aqueous could not escape and it seems that none of the 1 cc. of fluid injected returned. The following day the eye was more quiet, and the exudate began to be absorbed. In the course of a year the upper part of the cornea became clear so that you can now see about two-thirds of the iris out from the periphery to the pupil in the upper two-thirds of the whole cornea. The eye is now quiet and has been quiet since six weeks after the treatment. The sclera has been pearly white and the posterior layers of the cornea have been gradually becoming less opaque during the last three years. At the present time it seems to be at a stand still. The intraocular pressure of the eye is equal to the good eye and there has been on shrinking. There is a good light perception as tested by very feeble light and the projection is good for such light. The central perception is better than the peripheral, and one may conclude that the macula is in a fairly good condition. The patient cannot see objects on account of the pupillary membrane and the organized exudate in the lower part of the anterior chamber, which also involves the deeper layers of the cornea. The condition of the lens cannot be determined.

The problem before us is: "Whether a visual iridectomy is indicated or not." I advise a visual iridectomy with an attempt to remove some of the pupillary membrane. We must recognize the risk, in such an operation of injuring the lens if it is still clear and healthy. Even if we injure the lens the patient is young enough to hope for complete absorption with judicious needlings and will have the benefit of a darker pupil, which is a consideration from a cosmetic point of view in a young person. It is possible that the lower part of the cornea may clear more in time. There will also be some extra field of vision which is a protection for the good eye.

As far as I know, this is the first time that Flexner's Serum has been introduced into the anterior chamber in these cases. The result is very encouraging. I have not had an opportunity to try it since, but have no hesitation in advising it when there is an exudative condition, such as this was, or even in milder cases. We are all familiar with the phthisis bulbi conditions which are met with in such severe involvement of the interior of the eye from epidemic cere-

bro spinal meningitis. We are also familiar with the end results of such infections as first appear in the vitreous chamber from cerebro spinal meningitis, and the production of permanent vitreous exudates with or without complete destruction of the eye and sometimes without any marked effect on the anterior chamber. It is not necessary to mention the many cases of optic atrophy which come from the same cause. It would seem wise to have the serum injected early into the vitreous chamber in such cases if the eye is in the least involved.

The general physician is not satisfied with a simple intravenous injection but also, when indicated gives a spinal injection at the same time. The sooner we can get the serum to the organs infected, the better it will be for these organs. Many cases of cerebro spinal meningitis are cured but are left with blind eyes. If the serum were injected into the eye chambers it may obviate this condition.

#### —B—

The presence of radio-activity in mineral waters was accepted by many as an explanation of the alleged clinical effects of such waters that had attained some reputation through their use medicinally for bathing or drinking. After careful consideration of the evidence now available, the Council on Pharmacy and Chemistry of the American Medical Association concluded not to accept any radium solution for internal use the dosage of which is less than 2 micrograms per day, or any radon (radium emanation) generator that yields less than 2 microcuries of radon during each twenty-four hours. It has been estimated that to obtain the dose of 2 micrograms by drinking 1 gallon of water, which is considerably more than most people drink in a day, the radioactivity of the water would have to be about 500 millimicrocuries per liter (a millimicrocurie is the radioactivity corresponding to one-billionth gram of radium). A government expert has recently pointed out that although many waters exhibit some radioactivity, the doses necessary to produce detectable effects could not be obtained by drinking reasonable quantities of one of the naturally radioactive spring waters; of most waters it would be necessary to drink from 100 to 1,000 gallons a day. The best evidence is to the effect that, up to this time, it has not been shown that the small amounts of radioactivity found in natural waters have any effect on the medicinal value of the waters.—(Jr. A. M. A., Oct. 30, '26.)

# THE JOURNAL

of The

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### SOME PHASES OF CONTRACT PRACTICE

Contract practice, as it concerns the medical profession, has been defined with an apparent intention to distinguish between contracts made by a physician with an individual or group of individuals, and contracts made by a firm, an organization or corporation by whom in turn the physician is employed.

In either case an indefinite—perhaps an unlimited—amount of service is promised for a limited and definite amount of pay. In the case of the physician who undertakes to care for a hundred families at two dollars per month each, and in the case of the one who draws a salary of ten thousand dollars a year as head of the hospital association of a large corporation, there is the same professional obligation to render efficient service to those who require it. In the first case the physician's legal and professional obligations run to the same parties; in the second case his legal obligation runs to the corporation by whom he is employed while his professional obligation is to those whose illness the corporation has contracted to care for.

In the first case the physician is likely to fail in his obligations because of his in-

ability or incapacity to meet the demands that are made upon him, which under the circumstances are likely to be excessive. In the second case there is apt to be some disharmony between the physician's legal and professional obligations by which he is prevented from rendering the most efficient service. In the hospital associations of large corporations where a large medical staff is employed the efficiency of the service will depend largely upon the ability of the men composing it and this will depend upon the organization and control of the association. If the association is entirely controlled by the employers (corporation) and the services paid for largely or entirely by the employees, it is more likely that the medical staff will be composed of men who will be competent and comparatively well paid. If on the other hand the employees have much to say in the selection of the medical staff there is always the possibility that incompetent men will be selected. An illustration of this possibility has recently been reported. One of the best established railroad hospital associations has recently employed osteopaths and chiropractors greatly to the humiliation of the doctors of medicine on the staff. In a communication from the chief surgeon he says:

"In explanation wish to advise that these cults are not recognized by the chief surgeon or by other members of the medical staff, neither does the staff refer any patients to them. They were appointed over the protest of the chief surgeon, when employees representatives were elected as Hospital Managers and cast majority vote for the appointment. All of the appointed members voted against the appointment. Chiropractors and osteopaths are not permitted to visit the hospitals to treat our patients; neither is the patient privileged to remain in hospital during the treatment period."

There is some satisfaction, perhaps, in the fact that doctors do not have to meet the cults, but these were appointed over the protest of the chief surgeon by a majority vote of the employees representatives. It seems very probable **therefore that the** same influences will ultimately secure their



rights with other members of the staff and other patients.

In such an event should the chief surgeon and his staff resign their positions? Could he feel that under such conditions he could give the kind of professional service that would do credit to himself and his profession? Should he first consider his legal obligations to the railroad corporation and discount his professional obligations to the employees to the extent his efficiency has been diminished by this action?

These are questions in ethics that will require decisions sometime, for instances like that mentioned will be repeated wherever similar conditions exist

#### DOCTORS OF MEDICINE AND DOCTORS OF PUBLIC HEALTH

The idea still survives that resolutions are effective weapons to use against encroachments upon our professional rights and privileges. It was an old time custom in our state society to memorialize the legislature when the members felt that some new or different regulations were needed. It is a matter of history that they seldom persuaded the legislature to act according to their wishes. In fact it was not until they supplemented their memorials with more effective persuasive measures that they got any legislation at all.

The Council of the South Dakota State Medical Association recently resolved that it believes that all positions of trust pertaining to public health in any community admission to the hospitals and provide that they and their patients shall have equal should be held by doctors of medicine and not by laymen holding D. P. H. "licenses" and that it views with displeasure any move on the part of the American Public Health Association which may express a desire to replace physicians as health officials by laymen with D. P. H. "licenses."

No doubt the American Public Health Association will view with alarm this attitude of the authors of these resolutions, but what can be done about it now? These D. P. H. degrees have been issuing for some time and their holders are already firmly

planted in the public health work and they will not be easily displaced.

The medical profession was responsible for the public health department and at one time could have controlled its organization and its activities. The medical profession has been indifferent to the needs of the public health service as well as to the steady expansion of its activities. It has apparently acquiesced in its persistent encroachments upon our legitimate territory, only occasionally voicing its apprehension in a timidly expressed resolution.

In a few years public health officers will be privileged to treat contagious diseases when called upon, and in a few more years every case of contagious disease will have to be treated by a public health officer. That is a prediction based upon the present trend of public health activities and it falls well within the scope of preventive medicine as applied to a population. There are those now in the public health service who find much satisfaction in the contention that in the efficient prevention of contagious diseases the treatment and cure of those afflicted is a most essential factor, and should be as much under the control of the health officers as the establishment of quarantine.

There has been and will continue to be, for many years to come, many expressions of dissatisfaction such as those of the South Dakota Association, but nothing is likely to be accomplished in that way.

#### JUST A PREDICTION

The trend in the practice of medicine is now toward specialism. It does not follow that it will always be. In fact there are developments which portend a radical change, a reversion to general practice—perhaps a new type of general practice. These developments have nothing to do with economic problems. It will not be because of the demand for the old or new type of practitioner but it will be because a further insight into the etiology and pathology of disease will have shown the disorders of the organs of special sense, the skin, and the excretory organs, are so dependent upon dysfunctions of the internal organs that

every physician must be an internist. The further development of biochemistry signifies many changes in our views, considerable reconstruction of the principles upon our practice is based.

At the risk of being accused of sacrilege one may almost truthfully say that the most outstanding and most essential feature of dermatology is its nomenclature. The nature of the structures involved gives character to pathologies whose analogues are found in other parts of the body. At the present time a considerable number of the so-called diseases of the skin are known to be local manifestations of disturbances of metabolism, faulty excretions or trophic disturbances, all of which lie within the field preempted by the internist. Further knowledge will probably include in this class all diseases of the skin except those caused by direct infection.

At the present time the rhinolaryngologist is principally occupied in removing tonsils for the relief of diseases in other structures, diseases that are known to have their origin in focal infections, or to prevent the possible occurrence of such diseases; or the opening and draining of infected accessory sinuses for the same purpose. The conditions these operations are intended to relieve come within the scope of the general practitioner's work and the operations themselves belong to the field of surgery. Many, perhaps most, of the diseases of the nose and throat, outside of those conditions, have been shown to be due to protein sensitization, faulty metabolism or some dysfunction of internal secretory organs, which belong properly to the internist.

One may also hope that further extensive research may lift from neuropsychiatry the burden of its nomenclature, make clear the intricate relationship between disorders of the brain and nervous system and the dysfunctions and pathologies of the other organs and structures of the human machine, so that the average physician may master a sufficient knowledge to treat them properly.

So might one say of all the other specialties. With more accurate knowledge of the conditions with which they are con-

cerned there will be no occasion for them. Perfect knowledge tends to simplify rather than mystify, to lessen rather than augment the intricacies of any science. With more perfect knowledge in medicine there will be fewer diseases, or names for diseases. An old disease, unrecognized, is given a new name, but a multiplicity of new names does not signify more knowledge.

A complete revision of the nomenclature would perhaps do much to simplify the study of medicine, and would do something toward clarifying the vision of those now engaged in the practice of medicine.

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### CHIPS

Sometimes a diagnosis of free fluid in the plural cavity is not easily made. Lasersohn (Archives of Internal Medicine, June 1926) has called attention to a confirmatory sign in the axilla of suspected cases of plural effusion. Dulness and decrease of intensity of the breath sounds high in the axilla of the affected side is a confirmatory sign of fluid. If however, with the dulness there is an increased intensity of the breath sounds it indicates pulmonary consolidation rather than pleural effusion. He found that marked dulness and marked decrease in the intensity of the breath sounds were usually associated with large amounts of fluid, and slight dulness with slight decrease in intensity of the breath sounds were associated with small accumulation of fluid.

The function of the gall bladder seems still to be a subject for considerable speculation. In the Archives of Surgery, October 1926, Mentzer reports his investigations of the valves of Heister which have been credited with the power to prevent the entrance or exit of bile from the gall bladder. He discovered that these valves are not present in all the lower animals and are absent in some men, and therefore their functional activities cannot be very important. He concludes that "the valves of Heister check the rapid passage of bile into or out of the gall bladder, presumably so that bile in the gall bladder may remain at a relatively uniform consistency."

From the various findings of those engaged in the experimental determination of the cause or causes of arteriosclerosis and increased blood pressure one may easily conclude that several factors may be present



in any one case or that various factors may be responsible for the conditions in different cases. Numan and his co-workers have reported (*Archives of Internal Medicine*, June 1926) the results of some experimental work to determine the relation of a disturbance of the acid base balance to high blood pressure and arteriosclerosis. They conclude that such a disturbance may be produced by high protein diets, resulting in the excretion of excessively acid urine. In animals to whom excessive protein diets were fed for as long as two years increased blood pressure was obtained and in those animals showing the greatest increase in blood pressure they found extensive arteriosclerosis of the aorta and in any instances in the coronary arteries.

Brown and Giffen made complete clinical and physiologic studies in seven cases of polycythemia vera treated by phenylhydrazine. This report in the *Archives of Internal Medicine*, September 1926, is to the effect that this drug produces marked and constant reduction of erythrocytes, giving symptoms of a hemolytic crisis. Even small doses cause an increase in leukocytes. The favorable effect in cases with pain in the legs due to calcification of the arteries suggests that this drug may be beneficial in arteritis obliterans without polycythemia. In the cases reported the phenylhydrazine was given in doses of 0.10 gm, three times a day; the total amount given varied from 3.4 to 7.6 gm., the average being 5.7 gm. It was estimated that each gram of the drug brought about the destruction of an average of 6 gm. of hemoglobin. The phenylhydrazine is discontinued when the erythrocytes drop to 4,500,000. It is more efficient than radiotherapy or venesection.

Theories are all right if they work out successfully. They are in a class with guessing when it hits. But too great significance is often given to a theory or a guess. When a man had a marked receding mandible it was taken for granted that he could not deliver the goods. The theory don't work out. It is placed in the same category now as phrenology or the bony prominences on the skull which was thought to be evidence of a superior brain. It is now proven that a short or long, big or little, round or square, receding or prominent mandible has nothing to do with ability or intelligence but it is the man behind the chin who is the visat ergo and runs the machine.

The intravenous injection of urotropin,

if begun sufficiently early, in typhoid fever cases is said to prevent the development of typhoid bacilli in the blood and lessen the danger of complications and relapses. The reports from those who have used it as a routine method are generally favorable.

Word has been received from the Dermatological Research Laboratories that they appreciate the patronage given to the D. R. L. Arsphenamines by physicians in this state.

These products have been advertised in this Journal for some time and it is gratifying to know that the readers have taken cognizance of the support of the advertisers. Also, that they are aware of the quality, safety and therapeutic efficiency of the Dermatological remedies for syphilis, which were the first to be made in this country and supplied to the physicians of America when the world war was in progress.

It is not definitely known whether or not a cold is the result of specific infectious process. The prophylactic as well as the curative value of vaccine therapy in this condition is therefore quite problematic. What we know about the nature of the affliction makes it highly improbable that much good can be accomplished by means of vaccine, and clinical experience seems to substantiate these deductions.—Jr. A. M. A., Oct. 23, '26.)

The Department of the Treasury, in Treasury Decision No. 3930, just issued, has amended the regulations covering the issuance of permits for tax-free alcohol to scientific universities or colleges of learning, laboratories for use exclusively in scientific research, hospitals or sanitoriums so as to provide that the permits now granted will remain in force until voluntarily surrendered or revoked. By the order renewal of outstanding permits on Form 1447 will not be required.

The diagnosis of pernicious anemia is not always easy. The symptoms are variable and by no means specific. Grinker (*Archives of Internal Medicine*, September, 1926) says that the blood count is often misleading, nucleated cells are inconstant, and the color index may be above or below 1 in secondary or pernicious anemia. The constant sign in pernicious anemia is the great variation in the size of the red cells, yet the average size is greater than normal.

Flood, discussing the calcium balance with hydrochloric acid milk, in *American Journal of Diseases of Children*, October 1926, calls attention to the fact that in cow's milk much of the calcium occurs as insoluble

calcium casein which is converted into soluble calcium chloride by the hydrochloric acid. In rachitic or tetantic infants there seems to be a moderate hypochlorhydria and it has difficulty in saturating the high buffer content of cow's milk and converting the insoluble calcium into soluble calcium chloride. The addition of hydrochloric acid to the milk obviates this difficulty. On account of the low buffer content of hydrochloric acid milk a high per cent of fat can be handled and fat probably contains the antirachitic factor.

J. Antoni claims that he was able to demonstrate characteristic structural modifications of the leucocytes of syphilitic patients, Arch. f. Dermatol. u. Syphilis Vol. 149, No. 3, p. 459. These modifications were best demonstrated by means of the "Ringold" method, but they can also be demonstrated with Giemsa and Eosin-Hematoxylin. The nuclei of many leucocytes have only a slight affinity for stains and small, twisted conduits (or grooves) can be observed, especially in the lymphocytes. The author never observed structural modifications of this type in the blood of healthy individuals or with patients suffering from other diseases. These modifications can also be demonstrated in the inflammatory exudate of papules and in the punctate of lymph glands. They can be demonstrated in the blood in the sero-negative stage of syphilis, in tabes, paralysis and congenital lues.

There has been at least a suspicion that motion pictures cause some damage to the eyes. Guy A. Henry, general director of the Eyesight Conservation Council of America, in a lecture to the Society of Moving Picture Engineers, makes the statement that "Movies do not cause eye trouble but frequently they do reveal the existence of eye defects." This statement he modifies by saying, "If the eyes of the observer are normal for distance vision or corrected for refractive defects the owner should not experience discomfort in viewing motion pictures *provided certain other conditions prevail.*" He then explains that worn films that produce streaks and spots of light or induce other defects should not be tolerated. Improper projection may produce eye-strain. Flickers will also result in eyestrain. There should be no vibration and especially no lateral movement. Eyestrain will be produced if the screen is not in focus and this may depend on the vision of the operator. If the observer is not properly seated with reference to the screen eyestrain may result.

The illumination of the building should not be too low, causing too great dilation of the pupils. If these and a few other conditions are eliminated or avoided there should be no danger to the eyes in viewing motion pictures.

What is said to be the first comprehensive history of the activities of the medical profession, as distinguished from a history of medicine, from the earliest time to the present day, is about to be published through the effort of the Physicians Home, Inc., the headquarters of which are in the Times Building, New York City. "The History of the Physician" is intended to trace the history of the doctors' labors from the remotest times to the present, so as to show how the basic principles of modern medical science were established, not in one age or country but by cooperation of medical men in all parts of the world patiently laboring over long periods of time.

It is to contain biographies of outstanding practitioners since classical times as well as of prominent American physicians of the past century and one of the most important features of the work is a series of sketches, contributed by recognized contemporary authorities in the several lines, of the men who have aided most in bringing about the present efficient methods in special branches of medicine.

The proceeds from subscriptions for this book are to be devoted to increasing the endowment fund for the Physicians Home.

Guillaume, in a long article, Bulletin Medical, Feb. 10-13, 1926, discusses the protective role of the skin in toxemias and bacillemias, and this may be encountered as well when the processes are intrainestinal. This participation of the skin enters into the genesis of certain dermatoses which often improve notably after the alimentary canal has been evacuated. On the other hand the lesions are not favorably influenced by measures directed entirely toward the skin. In idiosyncrasies to drugs and food articles, with outbreaks of wheals, etc., the cutaneous lesions resemble these produced by anaphylatic sensitization. In these cases a variety of measures may be useful and the toxigenic mechanism involved appears to be the vegetative nervous system, which has had its balance disturbed. It is well known that after severe burns a peculiar toxemia develops and the author associated this with the abolition of the antitoxic functions of the skin. In syphilis, when the disease expands itself to the cutaneomucous system, nervous accidents are very rare and unim-



portant because this system forms the natural defense against the treponema. The author now passes to surface immunity or allergic phenomena in which the immunization of the skin is usually sufficient to protect the entire organism, as in smallpox vaccination and in the skin immunity which follows the syphilitic chancre, this being sufficient to render the skin immune to further inoculation. The diagnostic reactions of Schick, of Dick and of Pirquet and the analogous mallein reaction illustrate the same basic principle of immunity, showing that the latter exists naturally, just as certain forms of vaccination or inoculation immunity can be produced at will. In debilitated individuals the cutireactions seem feeble in comparison with those in the robust. The author is not at all clear as to the interrelations between cutaneous and humoral immunity processes but evidently believes that the former must depend on the latter and these in turn on physicochemical processes.

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### The Potency Date on Biologics

BY DR. JOHN F. ANDERSON

Director Squibb Biological Laboratories

Frequent inquiries are received at the Squibb Laboratories from pharmacists and physicians asking whether Biologics, on which the potency date has passed, might not still be used with safety and confidence. This article is written with the idea of answering this same question as it arises in the minds of other representatives of the professions.

The potency date on Biologics is defined in the law, as that "date beyond which the contents (of the package) cannot be expected beyond reasonable doubt to yield their specific results." The Federal Regulations governing the fixing of the potency date on Biological Products have two main provisions. One pertains to those products which have a standard of potency, which can be used at any time to establish definitely the potency and the therapeutic worth of the product. The other provision relates to those products for which there is no standard of potency, or no means of determining quickly by laboratory methods the true therapeutic worth of the product.

In the first class we have the Antitoxins, such as Diphtheria and Tetanus, for which there are international standards of potency. For these products, the Government regulations prescribe that for each twelve months' potency-period there shall be added to the contents of the package a definite

excess number of units to compensatae for the loss in potency on aging, even though not kept under proper conditions. For example, a package of 10,000 units of Diphtheria Antitoxin, having a potency period of two years, must contain, when finished, at least a 30 per cent excess in the number of units, or a total of 13,000 units instead of only 10,000 units as stated on the label.

It is at once apparent, therefore, that a package of Diphtheria Antitoxin may be used within the potency period stamped thereon, and that the person to whom it is administered will get at least the number of units stated on the label. Should the contents of the package be used after the potency date has expired, it will still be found to be therapeutically effective, and at any time within a year thereafter probably will contain within 10 per cent of the original labeled potency.

All will recall that in the diphtheria epidemic at Nome, Alaska, the only Diphtheria Antitoxin that was at first available was outdated but that its use saved many lives.

There are potency standards for other products than Diphtheria and Tetanus Antitoxins, among which may be mentioned Typhoid Vaccine, Diphtheria Toxin for the Schick Test, Anti-Meningococcic Serum, Anti-Pneumococcic Serum, Anti-Dysenteric Serum, Scarlet Fever Toxin and Scarlet Fever Antitoxin. However, the standards for all these products, with the exception of the last, are used only for the purpose of insuring that when distributed the product will exert certain specific efforts, as for example, that the Anti-Pneumococcic Serum will protect mice against a certain dose of a culture of pneumococci, using a standard serum for comparison; or that Scarlet Fever Toxin for the Dick Test will cause a positive skin test in a person not immune to Scarlet Fever.

Usually but little excess volume is put into the containers of these last-mentioned products, for the reason that the methods of standardization do not permit of exact quantitative measurement.

These products, therefore, will show a gradual decrease in potency on aging but this decrease will be much less when the products are kept properly refrigerated. Most of them may be used after the potency date has expired, if due allowance is made in the dosage for the decrease that occurs from aging. No exact information is available, however, as to how much this loss of potency is for each product.

Consequently, for those products for which no standards of potency have been

established, the Government has fixed a definite potency period. These products, which include the various Bacterial Vaccines, except Typhoid, Anti-Streptococcic Serum, Leucocyte Extract, Normal Horse Serum and similar preparations, probably still are therapeutically active after the potency date has been reached, if they are used in excess of the original dosage.

There is no potency standard for Smallpox Vaccine, except that it must produce a good "take." Refrigeration is of the greatest importance to maintain the potency of this product. If kept at temperatures above 50° F., the Vaccine rapidly loses in potency. Smallpox Vaccine should be kept, whenever possible, in a tin box in direct contact with the ice.

Rabies Vaccine, Semple modification, being a killed virus, is in the same class as other products for which there is no potency standard. Rabies Vaccine, Pasteur, however, has a short potency period and, except for the first seven doses, is only shipped from the laboratory for immediate use.

It will be apparent from this summary of the use of the potency date on Biologics that the Government regulations have fixed the potency date for various products to insure "beyond reasonable doubt" the therapeutic worth of those products any time prior to that date. It is also clear that the Antitoxins and most of the other Biological Products may be used after that time in cases of emergency, if proper allowance is made by increasing the dosage.

All will realize the importance of constant attention to stocks of Biologics, always making sure that those with the shortest potency periods are used first.

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## KANSAS MEDICAL LABORATORY ASSOCIATION

### Testing for Sugar in Urine

E. R. Lehnherr, Dept. of Bio-Chemistry,  
University of Kansas

Dextrose is by far the sugar most commonly met with in urine. Lactose and levulose are occasionally encountered, but the presence of these do not have the same clinical importance that is attached to the presence of dextrose.

Small amounts of sugar, too small to be demonstrated by ordinary methods, are found in the normal urine. Any appreciable excess of this quantity is termed glycosuria and almost always presupposes hyperglycemia.

The most general methods used for the de-

tection of sugars are based upon their reducing action in alkaline solution. These bodies owe their action to the aldehyde or ketone groups within the molecule, and because of the radicles are easily broken down to very reactive fragments. Thus there has been developed various tests making use of this fundamental property and involving the reduction of alkaline solutions of copper, mercury, and silver.

The tests most carefully worked out, and attaining the greatest popularity, are those containing an alkaline copper sulphate solution, there having been added some substance for the purpose of preventing the excess cupric hydroxide from precipitating from solution as the black cupric oxide. This latter is then a tremendous improvement over the Trommer technique which is performed by making the sample alkaline with sodium hydroxide, adding cupric sulphate until the first tinge of the hydroxide is noticed, and warming. The excess copper in this test will then be dehydrated during the heating to form the insoluble cupric oxide. In fact this test has been supplanted by the more accurate methods involving the above principle.

The substance which has been added as a preventive measure for this error has been varied. Among the first introduced was Rochelle salts as used in Fehling's solution. Benedict later recommended the addition of citrate which gives a more stable solution, and at the same time increasing the value of the reagent. Lately Folin-McEllroy have introduced the use of phosphates and pyrophosphates with the same end in view. Folin-McEllroy thus succeeded in cutting down the cost of the reagent, and at the same time have greatly enhanced its serviceableness.

The original tests made use of strong alkalies such as potassium and the sodium hydroxides. Benedict and Folin have been able by the substitution of sodium carbonate to eliminate the false positives due to uric acid and creatinine which were possible by using these stronger reagents. They also succeeded in increasing the sensitivity of their solutions. The error is to be explained by the time necessary for the reduction to take place. The strong alkali will no doubt be able to effect a destruction of small amounts of sugar during this period, which is impossible for a weaker alkali to accomplish.

The application of these solutions containing sodium carbonate has not been made by everyone. Some still prefer to use Fehling's or Haines' technique. Haines' solution being a modification of Trommer's



test, uses glycerol as the agent to keep the cupric hydroxide in solution. But it has the advantage over Fehling's in that it is more stable. The addition of the glycerol seems to cause a loss in the sensitivity, enables it to be more easily reduced by preservatives and some of the common constituents of normal urine, (namely creatinine and uric acid.)

The test is indicated by the presence of the cuprous compound formed from the cupric hydroxide. The reduction being indicated by the formation of a turbidity in the reagent after the application of heat. The precipitate varies in color, ranging in color from the green to the yellow and the red. The red substance setting out of solution on standing and is the final product, cuprous oxide.

The time of the appearance of the precipitate, its color, and the amount being a rough measure for the quantity of reducing sugar present. Thus traces will result in the formation of a light green colloidal precipitate, larger amounts causing the formation of a yellow which will in turn give way to the cuprous oxide. The difference in color being altered by the substance present. Thus cuprous hydroxide is responsible for the green and the yellow, the latter being dehydrated to form the red compound.

I need not enter into the details in regard to the ingredients of the different reagents. It will suffice to say that our laboratory has found both Benedict's and Folin-McEllroy solutions to over shadow all the other tests in regard to sensitivity and specificity. These qualities enable one to use either of these solutions as an "umpire" for the positive results obtained with any of the tests, providing one does not wish to use them alone because of their great sensitivity. Their value as umpires lies in their failure to be reduced by the normal constituents as given above.

The cautions to be observed with either of the above mentioned tests are given below:—

1. Use five cubic centimeters of the reagent, boiling a few moments immediately before adding the urine. Do not use solution if a turbidity forms.

2. Free all urines from albumin by acidifying with acetic acid, boiling and filtering.

3. Never add the urine to the cold reagent, but add it to the boiling solution as stated in first precaution.

4. Bear in mind a change in color does not constitute a positive test. Dextrose gives a granular precipitate, and the other

color being produced by various substances which may be in the urine.

5. The rapidity and the color of the precipitate forming may be regarded as a rough indication of the amount of sugar present.

6. We never use more than ten drops of urine in making tests with Haine's or Fehling's solutions, and not more than eight when using Folin-McEllroy or Benedict's. If necessary, the urine must be clarified by filtering.

7. A precipitate appearing after the cooling of reagent may be an indication of dextrose, but such does not constitute a positive clinical test. The reduction must occur during the heating.

8. Using five cubic centimeters of a 1-5 dilution of Fehling's solution facilitates the reading of the test, and at the same time increases the sensitivity. There being a marked difference from the results as obtained with the regular reagent.

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## MEDICAL SCHOOL NOTES

The clinics, which were held at Bell Memorial Hospital during the Fall Clinic week, were visited by several former members of the Kansas University Medical School. They were: Dr. Ben S. Morris '25, Morland, Kansas. Dr. O. T. Banke, '24, Columbus, Kansas. Dr. J. R. Campbell, '15, Pratt, Kansas. Dr. W. N. Mundell, '14, and Mrs. Etta Mundell, '14, Hutchinson, Kansas. Dr. Ralph Casford, '24, Fort Smith Arkansas. Dr. William Pittman, '25.

Dr. Ralph Casford, '25, was married September 22, to Miss Gladys Williams, of Girard, Kansas. He is now located in Fort Smith, Arkansas.

Dr. Homer Beal, '21, was elected to the Academy of Otorhinolaryngology, at the recent annual meeting in Denver.

Dr. George Penwell is now located in Marquette, Kansas.

Dr. Pete Ernest was a recent guest of Dr. E. J. Curren.

Dr. Morris Fishbein, editor of the Journal of the American Medical Association, was a guest of Dr. Ralph H. Major, Professor of Medicine, at the Medical School recently.

At the last meeting of the Wyandotte County Medical Society, Dr. LaVerne B.

Spake read a paper on "Sinus Infection in Children."

Dr. C. C. Nesselrode took an extended tour through the east a few weeks ago. He attended the Officers Training Camp for Unit Commanders, at Carlyle Barracks, Pennsylvania. He also visited the Johns Hopkins University, in Baltimore, Maryland.

Dr. L. G. Allen has returned from a tour through the east. While away he visited North Western University, in Chicago, Criles Clinic, in Cleveland, and Washington University, in St. Louis.

At the K. U. Alumni Banquet, the alumni indorsed the present administration and organization of the Medical School, reaffirmed resolutions of last year relative to the location of the Medical School, and established a Student Loan Fund, which now amounts to approximately thirteen hundred dollars. At the banquet these officers were elected: President, Dr. C. C. Nesselrode, Kansas City, Kansas. 1st vice-president, Dr. Ralph Hissem, Wichita, Kansas. 2nd Vice-president, Dr. Lawrence Nelson, Salina, Kansas. Chairman of Election Committee, Dr. J. F. Hassig, Kansas City, Kansas. Secretary and Treasurer, Dr. L. G. Allen, Kansas City, Kansas.

Dr. L. F. Barney attended the American College of Surgeons meeting, in Montreal.

Dr Thomas G. Orr and family attended the meeting of the American College of Surgeons, held in Montreal, October 25th to 29th.

Dr. H. R. Wahl attended the Association of American Medical Colleges, held in Cleveland, October 25 to 27th.

Dr. Roy F. Mills has been appointed Assistant in the Medical Clinic in the Dispensary.

Dr. Earl C. Padgett, has been appointed Fellow in Surgery.

Dr. John L. Lavan has been appointed Assistant Dermatologist in the Dispensary.

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### Supreme Court Upholds American Drugs

A decision of the highest importance to every physician, pharmacist, drug manufacturer and, in fact, every user of drugs in the United States was rendered by the Supreme Court of the United States on October 11, 1926, when this highest tribunal of the Nation declared that the Chemical Founda-

tion has been acting legally and properly in the purchase of the foreign drug and chemical patents during the War, and licensing American manufacturers to produce these essential substances in this country.

The sale of the German patents to the Chemical Foundation took place during President Wilson's administration and had, without doubt, a distinct influence upon the outcome of the War, because this transfer permitted American concerns to begin at once the production of various drugs and chemicals which had, theretofore, been made only in Germany, and whose importation ceased with our entry into the war.

President Harding, apparently laboring under some misapprehension as to the purposes and functions of the Chemical Foundation directed that suit be brought by the Government to set aside the sale of these patents to the Foundation.

The case was first tried in the Federal District Court of Wilmington, Del., and resulted, after weeks of evidence taking, in a finding against the Government on all points.

The case was appealed to the Circuit Court, which upheld the decision of the District Court in every particular.

A final appeal carried the question to the Supreme Court of the United States, where evidence was heard more than a year ago. The long delay in rendering a decision has afforded time for mature consideration. The Court has decided unanimously that the sale to the Chemical Foundation was valid and legal and that the Foundation has made no improper use of the powers which it thus acquired.

This decision is a momentous one for everyone who has anything to do with drugs and chemicals in any way whatever.

To the physician it means that he will have a steady and regular supply of reliable drugs, of American manufacturers, which can never again be upset or cut off by the vicissitudes of war. The same considerations apply to the pharmacists. Among the vitally necessary drugs affected may be mentioned the arsphenamines, cinchophen, barbital, the flavines, procaine and a host of others.

To the drug manufacturer, who has invested thousands of dollars in apparatus for the manufacture of drugs and chemicals under the Foundation's licenses, it means relief from a certain degree of anxiety (though the outcome of the case could scarcely have been in doubt) and a tremendous inspiration to further investigations



looking to the production of more and better drugs and chemicals for America.

To the nation at large, it means that reliable medicines will continue to be sold at reasonable prices; and, more or less indirectly, that the dye industry of America which is now in a flourishing condition, thanks to the Chemical Foundation, will be available for government uses should we become involved in another war.

Nor are medicine and pharmacy the only lines of endeavor affected by this momentous decision. The steel and packing industry and many others will be vastly benefited by the freedom of chemical investigation and activity which is now assured them.

## — R — SOCIETIES

### STAFFORD COUNTY.

Society met in St. John, October 11, in the afternoon, two days early in order that they might be addressed by Dr. James F. Cooper of New York City on the subject of Birth Control. It was the largest attendance of the year, there being present, Drs. Scott, Butler, Shonkwiler, F. W. and J. J. Tretbar of Stafford; Munford of Belpre; Hart of Macksville; Mock, Stivison and Scott of St. John.

Dr. Cooper delivered a very interesting and instructive address on Birth Control and contraceptive Methods which he concluded by displaying a number of devices for use in the prevention of conception. He also spoke of the methods and remedies that had been found most efficacious in cases requiring such measures. His experience qualifies him to speak as an authority, he having formerly been Clinical Instructor of Obstetrics at the Boston University Medical School and Professor of Clinical Laboratory Methods, Foochow Union University Medical School, Foochow, China. He is now Medical Director of the Research Department of the American Birth Control League. He spoke on contraceptive technique to the Society in the afternoon and delivered a public address in Convention Hall in the evening on the subject "Birth Control." Considering the short time available for advertising the meeting there was a good attendance, composed mainly of women.

The general consensus of his audience was that it was the best and most important lecture ever delivered in our city.

The Society voted to favor the State Society's organization of a Bureau of Public Relations and lend its support in furthering the efforts of the bureau. Notice of such

action was forwarded to the Executive Secretary.

J. T. SCOTT, Sec.

### DOUGLAS COUNTY MEDICAL SOCIETY

The regular October meeting of the Douglas County Medical Society was held on October 7th. After the regular business had been transacted a most interesting paper was read by Dr. Nelse Ockerblad of the University of Kansas faculty, subject, Lesions of Kidney and Ureter. This paper was illustrated by many lantern slides, showing the latest methods of dealing with these lesions. Sixteen members present, also fourteen Sophomore medical students from the University of Kansas.

### CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society held its October meeting at Wakefield, Kansas, on October 27th. The members of the society were guests of Drs. Jackson and Dannis, both of Wakefield, at a 7:00 o'clock dinner. Dr. Harry Berger of Kansas City was the speaker of the evening and gave us a very interesting talk.

### WILSON COUNTY MEDICAL SOCIETY

The Wilson County Medical Society met at the Loether Hotel, Fredonia, Monday evening, October 18th. For various reasons, this was the first meeting since May. We will meet monthly until hot weather comes again.

Having several communications from Dr. McVey, Executive Secretary of the Bureau of Public Relations, we discussed the matter and the Society appointed members to take care of the lecture and 500 word article proposition as outlined.

This society has been for some time, interested in obtaining new buildings at our County farm. The committee having this in charge made its final report. The Society decided to get behind the matter, by attempting to get 2500 signatures on a petition, asking for an election to vote the necessary bonds.

Our next regular meeting will be at Neodesha, November 8th.

E. C. DUNCAN, Secretary.

### SHAWNEE COUNTY MEDICAL SOCIETY

Instead of the regular meeting of the Shawnee County Medical Society on Monday, October 4, a complimentary dinner and reception was given for Dr. N. J. Taylor and Dr. W. S. Lindsay, who have been practicing medicine for more than fifty years. There were more than sixty members present. Dr.

C. ... McGuire acted as toastmaster and the program follows:

Dr. McGuire: Dr. Brown informed me some week or so ago that he wanted me to be the goat tonight. However, I consider it an honor bestowed on me to have the honor of introducing these two gentlemen who have been in the practice of medicine for more than 50 years. It doesn't seem possible, but like the farmer who looked at the giraffe and said, "There ain't no such animal," so it is a long time to fellows like some of us here tonight. But time passes quickly and age creeps upon us before we know it. I recall one particular patient I had who had a long illness. Her room was filled with floral offerings from her friends. She said, "Well, if anyone wants to send me flowers, I want them to send them to me while I am living and not after I am dead," and I, too, think it proper and fitting that we send them while we are living instead of sending a truck load after a fellow is dead, and then cuss him all the time he is living. So, I suppose I was asked to get up here tonight and hand out a few bouquets. Fifty years in the practice is a long time. Few of them exceed 35 years in the average practice. When you think that these two men have each practiced medicine for more than 50 years and still retain the love and respect of their friends and associates, that is a wonderful thing. When you consider that you must realize that these men have earned it. You don't get it through pull; you can't go down to a store and buy it by the yard; you earn it, and when you have been in the harness for that length of time and still have the love and respect of your friends and neighbors, you have earned it. I am very glad to see this turnout tonight. It is a good indication. I want to introduce to you Dr. Taylor, who has been practicing medicine for sixty-two years. He didn't have the advantages of today when he started. He didn't have thermometers, x-rays or laboratories, but he carried on his work. He still has the love and respect of his fellow-men. Dr. Taylor has the privilege of talking about anything he pleases tonight, but if he will take a little tip from me, he will tell us about some of his experiences in the old days. Gentlemen, Dr. Taylor.

Dr. Taylor: Mr. Toastmaster and Members of the Shawnee County Medical Society: While Dr. McGuire was speaking, he stated that most of us are worn out at the end of 35 years of practicing medicine, and the suspicion came to me that I must have been very lazy or I, too, would have been

worn out at the end of 35 years. We all get lemons. I have had my share in my day, but gentlemen, I have also had one or two great compliments. The first one I had was when a little 16-year-old girl promised to cast her lot in with mine. That was my first great compliment. One of the first I ever had was when a little girl asked her mother, "Mamma, isn't Santa Claus a real good man like Dr. Taylor?" One time I received one that I am sure was from the heart. I did something to especially please the minister in our community. It all came about through a discussion regarding the consolidation of schools—he got up in meeting and said he would like to strew flowers over the grave of Dr. Taylor. While I acknowledge that the compliment was appreciated, still I felt there was no hurry about reciprocating. The other day I was called to the phone and our secretary informed me that you were about to honor Dr. Lindsay and myself by having this great meeting and dinner. This is one of the greatest compliments I have ever had paid me. But, as the wise man said, "There must be a fly in the ointment." I wondered what it could be in this case. I knew it could not be my good looks, and I knew it was not because of my ability as a medical man, and so I decided that it was to show me and the members of the Society a good time on the behalf of Dr. Lindsay. Dr. Lindsay has helped to make medical men. He has been a member of a college that has done so much good and has started so many men on their medical careers. But I have tried to observe the laws of God. I have always tried to observe the code. I believe I have observed the laws of the game, at least, I hope I have not altogether failed. Like the congressman who said to another politician, "I'll bet you a dollar you can't repeat the Lord's prayer"—"Now I lay me down to sleep," began the politician. His friend turned around and handed him the dollar. "You win. I didn't think you could do it," he said. I hope I am not speaking beyond your comprehension, Mr. Toastmaster. We used to lay great stress on the matters of *materia medica*. I recall how I used to go to the bedside of a patient with great anxiety. I remember how I used to measure out morphine for a patient. Maybe I didn't always give the right amount, but I didn't kill anyone that I know of.

I wish to call your attention to diphtheria as we knew it in the old days—or we thought we did. Now we have antitoxin. Very few cases recovered in those days, it is not so serious now.



I remember one of the first things I learned to do was to pull teeth. It might be better to say we abstracted teeth. As you see, I do not have much muscle. We used a turnkey. Did you ever see them roll logs with a grab hook? I am going to pass this turnkey around and if there is anyone who does not understand how it works, if you will step up here I will demonstrate it. I am placing great confidence in you people when I pass this around for you to see. I may never see it again, although I don't believe there is a crook in the crowd. When I began to practice medicine, I went in partnership with an older man, a man with experience, a good man. For awhile we went along fine, but I was young, small and not very good looking. Some of our patrons didn't call on me when they could get the services of an older man, and an experienced man, and I got mad because they didn't call me. I was just out of college and I thought I knew all there was to know about medicine. Our partnership ended. I decided I would come here and be independent. I would strike out for myself. I bought a farm and decided I would be a farmer, but I didn't get to farm. Some of the people in our community found that I had been a doctor. They called on me and they took my affairs into their hands. I said I was going to quit as soon as I was 60. I came out here to Kansas—on the prairie—and, of course, it wasn't long until I got a call to go out into the night. I got lost. I did not know the roads and the fields were covered with snow. It is surprising to know how I found my way out. I have always had horses that I could trust since that time. One night my little pony got lost down by Wakarusa. I got out of the buggy and a flash of lightning showed me the path. I led the horse around until I finally got in the road again. I found that the horse had followed the stream instead of taking the road. When I found it out and found what a narrow escape I had had, I backed the horse until I finally got out of it.

One dark night I had a man on the opposite of the river to call on. Perhaps it might have been just as well if I hadn't. At this time the ford at the river was up. I was in a road cart. I asked a boy to direct me and he told me where to cross. I realized I was in danger, my horse was having a struggle and when I finally reached the bank the little boy said, "Well, you did get across, didn't you. I didn't think you would." One of the stiffest things we had to contend with in those days was

obstetrics. I had one call from a woman who was about to be confined. I had to go miles and miles that night. I had no one to help me. When I saw the woman lying there with a pool of blood under the bed, I knew it was up to me to do something and do it quickly. Well, I came through alive and so did the woman.

One night I was called to see a married woman. She told me she had had a hemorrhage. (You know what I mean). I told her that as soon as she could ride to get in a buggy and go to Topeka. I told her if she started to have a hemorrhage before she got there to stop at her mother's and send to Topeka. She called me—I got there as soon as I could. I knew it was up to me to hurry and get through the case alone. I got through. I remember one time in North Topeka, a woman had a bunion. She heard that carbolic acid was good for bunions. She showed me her foot. It was all black. She said, "Well, I have learned one thing about bunions—the Bible says the Lord takes care of the simple."

When I was informed that I was expected to make a speech tonight, I said, "If I had time, I would go to Dr. Menninger and have him stiffen up my memory a bit for me. I won't take up much more of your time. If you will excuse me I will refer to my notes and tell you some stories that I have written down here.

You will have to excuse my English. I have not been very careful in cultivating it. I spend much time with people who are careless with their grammar. I have lived right there with them, eaten with them and slept with them.

I remember the first ovarian operation that was ever performed in Topeka. It was a bad case. No one wanted to take it. It was soon after we learned about "germs." We had an atomizer filled with disinfectant. My job was to stand at the foot of the table and send a spray from the atomizer over the table and the hands of the doctors when they commenced to operate. The poor woman was in a very critical condition. We talked it over. Dr. Lister asked the lady if she knew there was only one chance in a hundred of her recovering from the operation, if she still felt that she would want to have it done. She covered her face with her hands for a few short moments and then said, "I'll risk it." They found a large growth. It had spread and had attached itself to the liver. It was malignant. They found the most extensive adhesions. We had to go in there and separate it—tear it apart. The man who had her pulse

said, "She is going." We felt so badly about it. She died just at the close of the operation. Those days were very harsh ones, we found.

A very serious disease in those days was membranous croup. I remember how I used to treat them by inserting a tube. A little child would get it, and very often the little life would flicker out. A little child had it, I recall, and her lips were blue, her face was blue. I put in the tube, she could get her breath and her little cheeks began to grow pink and she went to sleep and she lived. Later I met Dr. Lindsay at the Medical Society. He approved my work. I have never had anything give me more satisfaction than that. He said, "If I ever have any more of these cases, I want you to come out and put in that tube." Now they have toxin antitoxin for diphtheria, that is wonderful. I don't know of anything that gives me more joy than this, and that, gentlemen, is one of the advantages of growing old. One sees the approach of greater and better methods.

My hearing is not so good, gentlemen. My sight is failing me. If I fail to recognize any of you on the street—just lay it to Dr. Boggs. I went to him for treatment. He fooled around and fooled around and finally quit. He found he wasn't going to get a fee I guess. I decided I would give Dr. Williams a trial. I went to him. He fooled around and he finally quit. I had my ears treated. I suppose he thought there was no use, probably thought it was leather. Anyway, he quit. But I haven't gone to Dr. Menninger yet. I hope if you see me on the street and I fail to recognize you, that you will slap me on the back and say, "I am Dr. Joss, I am Dr. Lovett, or I am Dr. Brown." Dr. Boggs said I had a cataract. He didn't say it in just those words, but he meant about this: "After you have been blind for a couple of months, come in here and I will fix you up." Well, I haven't gone yet. I am not worrying about it. It has been said, "Take no thought of the morrow." I make that my motto. It is a good one. These eyes are getting dim. These ears are getting so I cannot hear, but, gentlemen, if they fail me, I shall still have the memory of this evening.

Dr. McGuire: I understand this story will be carried by the Associated Press. I think it should. I feel that if it were ever published, Chauncey Depew would lose his job. Now, if my friend Lindsay beats that, he is going some. I do not know what Lindsay has up his sleeve. I don't know how many raps he will give me, and, incidentally, he is to remember that there isn't a crook in the crowd. Dr. Lindsay has been

in Topeka for a long time. Strange to say he still retains the love and respect of his many friends and associates. I hope he will give us some of his experiences of years gone by. Gentlemen—Dr. Lindsay.

Dr. Lindsay: Mr. Toastmaster and Fellows of the Shawnee Medical Society: I have had a few honors conferred on me but I want to tell you this is the proudest moment of my life. I am glad to be called on by Dr. McGuire, not only for his versatility and felicitous manner of expression but because of certain talks with members of this society, indicating that although the time is somewhat distant, they are already considering an entertainment for him, such as you are giving Dr. Taylor and me. The first thought that comes to me is retrospection of my student and early practice days. When I attended medical school, I think there was one microscope and one professor looked through it and told us what he saw and we took for granted what he told us and went on.

I studied medicine with my father and began to practice when I was twenty-two years old. My first means of transportation was a horse. I had had some training on horse back, herding cattle on the prairie and riding scrub races on a track on my father's farm. I was also extra driver for the Parker and Tisdale Stage Company, so that the horse part of my work was easy. Shortly after I arrived home from school, a man came in great haste to our town one evening to get a doctor for a confinement case. He did not succeed in getting an experienced man, so he took me. We galloped nine miles in the country and when we got there the man who came for me took out a quart bottle of whiskey from his pocket and he and each of several neighbor women assembled, took a drink. On examination of the patient, I found that I had a breech presentation which sent a chill down my spinal column. I stayed with the case till the next afternoon and delivered a living child. On my way home I met my father, who had become exercised at my long absence. I wish to add that my bill for this service remains unpaid. Dr. Taylor's story about getting lost, reminds me of an experience I had, riding a small horse down the Little Osage river. It was in February and a rain had thawed the ice enough to run. There were no bridges in those days and I followed the trail into the water, expecting to see marks of the road on the other side. I soon found my little horse was swimming with no definite landing place ahead. A clump of willows in the water suggested a temporary haven of rest and we succeeded in getting



onto it. It was becoming dusk but I saw a place on the opposite bank where I thought we might crawl out. It seemed imperative that we should leave our friendly island. In starting we made a plunge which took the whole company under this icy water. After riding some distance on the road I met a man riding a tall horse and he asked me if I thought he could cross the river. I was like many thoughtless young men even of the present day, and I told him, I thought he could, as I had. I never heard from him.

I remember the case of John Brown, grandfather of our Secretary, who came to Kansas as a missionary and teacher for the Indians. He lived at Auburn. He had four doctors, one of whom came to Topeka with a horse and buggy, for me. We made slow progress, frequently crossing fields, on account of snow which filled all east and west lanes. With these four doctors we had a consultation after which Mr. Brown asked each physician to give his opinion and advice as to treatment. It was the opinion of the four that Mr. Brown could not recover. I felt he had a fighting chance. He said, since there is one man here who thinks I may survive, I want him to attend me. I told him it was out of the question, as twenty miles of mud road in February when we drove horses was quite a distance. He said "Young man, how much are you making down there in Topeka?" I told him I was making a living. He said "Well I'll just hire you." I arranged with him to see him as often as I could. My plan of travel was to start at noon and remain with him through the night and return the next day at noon.

After hearing Dr. Taylor's interesting talk, I feel that Dr. McGuire made a mistake in calling him first. He should have followed the scriptural injunction to save the best wine till the last of the feast. With Dr. Taylor I recognize the great improvements we now have over the old methods. Our treatment of diphtheria was most unsatisfactory and many of our cases died. Through our better sanitary conditions we find less virulence of disease. This is particularly noticeable in scarlet fever, announcement of which, in those days, seemed almost equivalent to a death warrant. The cases that did survive showed scars from extensive infection in the cervical glands. Various forms of malaria constituted the greater part of our cases. The congestive seizures called congestive chills, were so fatal that it was generally understood that one could not survive the third one. A pa-

tient of a somewhat facetious nature announced to me one day that she had had three congestive chills. Inquiry developed the fact that she had had all three at once. In emergencies in these cases we gave as much as three twenty-grain doses of quinine within twenty-four hours. The people throughout the country as a rule were pale and jaundiced in appearance. The custom of bleeding patients was before my time but I did bleed one patient with what seemed good results, a case of puerperal eclampsia. One thing we very much lacked in those days was association with other doctors. Jealousy and rivalry existed more frequently than in later years. Laboratories were unknown. I remember the first fever thermometer that was used. It was much larger than the ones we use now with a long mercurial bulb bent at an angle to be used in the axilla and to be read while in position as there were no self registering thermometers. The cost of this instrument was five dollars which was then quite a sum. On one occasion I placed the thermometer under the arm of a child which was being held by the mother. I bent over the child's back to listen to the chest when I heard my prize instrument crash on the floor. The mother said, "I might have caught that but I didn't." We were not definite in the diagnosis of tuberculosis but we regarded a cough with fever and night sweats along with a pulse of 120 and loss of weight as very suggestive. A disease which prevailed during these malarial times was called spotted fever and was in reality cerebrospinal-meningitis. We tried to induce free perspiration in these cases by surrounding the body with ears of boiled corn. Some of the cases recovered. The one thing I observe that is different from the former time is a lack of regarding the personality of the case, a tendency to make much of the diagnosis and classification of cases with less attention to the individual. I think greater interest in our people would help to counteract the interest of the public in the various cults which assume the care of people without proper knowledge. On this occasion I feel like an expression made at a banquet by Dr. McVey senior. I called on him as one of the representatives of former days and told that during his time it was thought that scarlet fever was caused by eating red tomatoes. In reply the doctor said, "Mr. Toastmaster, you make me appear very old, very old indeed. In fact while you were speaking I fancied I could smell the fragrance of the other shore."

I want to thank you all for a very enjoyable evening.

The regular monthly meeting of the Shawnee County Medical Society was held at the Topeka State Hospital, November 1, 1926, with an approximate attendance of 55 members and guests. The following program was given:

1. Encephalitis, (Clinical cases)—Dr. M. L. Perry.
2. Malaria in the Treatment of General Paralysis of the Insane, (Clinical case)—Dr. C. R. Doyné.
3. Sydenham's Chorea, (Clinical case); Huntington's Chorea, (Clinical case)—Dr. M. S. DeLand.
4. Cerebral Embolism (Case report)—Dr. C. E. Joss. Demonstration of Pathological Specimens—Dr. M. L. Perry.

EARLE G. BROWN, Secretary.

#### THE MITCHELL COUNTY MEDICAL SOCIETY

The Mitchell County Medical Society met in regular session with thirty members and invited guests present. The afternoon meeting was addressed by Dr. Sadler of Chicago who made a stirring and interesting address. Doctors were present from Jewell, Osborne, Lincoln, Ottawa and Clay counties besides our own Mitchell county members. The meeting was followed by a banquet and was attended by the doctors and their wives. Fifty were present at this banquet. This was followed by an enthusiastic discussion of the "Commonwealth Fund," and the initiative started to take advantage of this fund for the erection of a modern hospital in Beloit.

E. E. BREUER, Secretary.

#### SEVENTH DISTRICT SOCIETY

The fall meeting of the Seventh District Medical Society was held at Kingman, Thursday afternoon, October 28, in the Chamber of Commerce rooms.

The greater part of the afternoon was taken up with clinics, conducted by Dr. G. E. Knappenberger of the State Medical School. Quite a number of cases were presented and gone over quite carefully, which proved a very interesting and instructive part of the program. The Kingman doctors, who had made provision for the clinic, announced that every case asked, had appeared, which made this part of the program somewhat lengthy, but none the less interesting and instructive. Many of those present spoke particularly of their appreciation of this part of the program.

Dr. B. L. Greever, of Hutchinson gave a

very interesting discussion of "Tularemia" with report and presentation of a case. Dr. Gillette opened the discussion and a general discussion followed.

A bounteous dinner was served at the Chamber of Commerce rooms, following which a short literary and musical program was given, the Girls' Glee Club of Kingman High School furnishing two numbers which were especially appreciated.

After the dinner and program Dr. Louise F. Richmond of Hutchinson, the President, called the meeting to order, when Dr. Knappenberger made a short talk on behalf of the Medical School and its needs of appropriations from the legislature the coming winter, so that needed hospital and other facilities may be supplied for proper teaching and care of students, and asked the co-operation of the medical profession of the state to this end.

Dr. M. Trueheart presented an invitation for the spring meeting to come to Sterling, which was on motion unanimously accepted.

"The Care of the Prostatic," was the subject of an interesting paper presented by Dr. Ralph W. Hissen of Wichita, which was followed by a general discussion.

Dr. E. S. Edgerton of Wichita presented a paper on "The Gall-Bladder and Associated Diseases," which was also quite generally discussed. On account of the lateness of the hour the doctor omitted portions of his paper.

Forty-six doctors registered at the meeting, the eastern part of the district being well represented. Quite a number were present from Wichita, who gave valued assistance.

Dr. Richmond, the President, expressed appreciation of the Society for those who had so kindly and so efficiently furnished the program, which for the most part had been arranged by the Kingman fraternity, and for the entertainment and care provided; also giving expression that the Seventh District Society had enjoyed another of its profitable meetings.

Adjourned to meet in Sterling in April.

H. R. ROSS, Secretary.

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#### Eyesight in the Industries

A federal health study embracing a ten year period reveals that of 10 industries, post office and garment workers show the highest percentage of defective vision according to an announcement by the Eyesight Conservation Council of America. 10,000 male and 20,000 female workers were ex-



amined by officers of the U. S. Public Health Service.

The industries surveyed were pottery, post office, glass, gas, foundry, steel, chemical, cement, cigar and garment. In general, no race showed particular differences, it was said in a statistical analysis of the study prepared by Rollo H. Britten, Associated Statistician, and L. R. Thompson, Surgeon, of the Public Health Service.

In the post office study it was found that the largest number of eye defects and the poorest eyesight prevailed among the letter separators, whose tasks require the most intensive eye work. In the garment industry the class of workers known as finishers ranked lowest in vision tests.

It is worthy of note, the analysis pointed out, that both of these groups were composed of workers whose job made severe demands upon the eyes.

It was not expected that vision would show much of a relationship to occupations in the industries studied, but there was considerable difference in the vision of groups according to the length of service. Normal vision in both eyes in the group of less than five years service varied from 26 per cent in the garment industry to 73 per cent in foundries. In the group of ten years service and over, normal vision in both eyes varied from 22 per cent in the garment industry to 65 per cent in foundries.

Age has a marked effect upon the number with defective vision. Taking the workers of all the industries, it was found that 77.2 per cent under 20 years of age had normal vision in both eyes. From 30 to 34 years of age, 60.1 per cent had normal vision in both eyes; from 40 to 44 years, 49.5 per cent; from 50 to 54 years 22.6 per cent; and at 60 years and over only 5.5 per cent had normal vision in both eyes.

The analysis, by combining two groups of workers, one of which was normal in both eyes, and the other normal in one eye only, assembled in a single group the workers who have at least one good eye.

"This is important from an industrial point of view," it was stated, "as it is felt that a worker with one good eye can, generally speaking, do as effective work as a worker with two good eyes.

"On the other hand, there is no doubt that such a group is a combination of two entirely different tendencies. The normal in both eyes declines rapidly with age; the normal in one eye only increases with age until about 50 years, then decreases.

"At about 40 years there is an acceleration in the rate of deterioration so far as

normal vision in both eyes is concerned. The curve of normal vision in one eye only increases somewhat until about 50 years, then falls off rapidly. Apparently in the earlier part of life, there are a large number of workers who keep one eye normal, while the other deteriorates; after that there is a rapid deterioration in both eyes."

The simple visual acuity test was used in all the industries studied for determining the defects of vision. This test was considered reliable for the purpose, although, it was explained in the announcement of the Eye Sight Conservation Council, it is only an approximation at best and admits only of the detection of cases most seriously handicapped by defective vision.

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## DEATHS

Dr. Henry P. Monroe, Waverly, Kansas, aged 72, died September 25, 1926, following a long illness. He was a graduate of the College of Physicians and Surgeons, Keokuk, 1883.

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## BOOKS

The Medical Clinics of North America (Issued serially, one number every other month.) Volume X, Number II, (Philadelphia Number, September, 1926.) Octavo of 217 pages with 16 illustrations. Per Clinic year, July, 1926 to May, 1927, Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

Reisman contributes an article on myocardial weakness. Sailer and Lynch give a clinic on backache in blood stream infection. Stokes has a clinic in which several skin lesions are demonstrated. Boles reports a case of dilatation of the stomach and a case of Hodgkins disease. Stroud discusses the value of quinine sulphate in auricular fibrillation. Gittings presents the subject of malnutrition as the modern pediatric problem. Jones has a short article on non-diabetic glycosuria. Gordon discusses the heart tuberculosis. Bockus and Shay have an article on obstructive jaundice, Klein and Keller report their observations on chronic arthritis. Knowles and Lundy have something on pellagra. Rehfuess discusses organic duodenal pathology. Robertson presents some thoughts on the value of pain and certain reflex phenomena in diagnosis.

A practice of Physiotherapy by C. M. Sampson, M. D., with 146 illustrations. Published by C. V. Mosby Company, St. Louis. Price \$10.00.

There is no question as to the popularity of physiotherapy, much of the doubt and uncertainty as to its efficiency can be ascribed to ignorance, poor technique or inadequate equipment. Certainly the time is

ripe for the publication of an authoritative work on this subject. Dr. Sampson has not only covered the subject thoroughly but he has simplified a good many problems in the matter of technique.

The Surgical Treatment of Goiter, by Willard Bartlett, M. D., St. Louis, with 130 illustrations. Published by the C. V. Mosby Company, St. Louis. Price, \$8.50.

In this work the author has attempted to present in detail the procedures involved in the preparation, operation, and after-care of the goiter patients who present themselves for treatment. He says "Goiter surgery seems to me to demand the light sure hands of the man who can shave himself rapidly using the old-type straight-razor without accident."

In the description of many of the details in the management of the various complications met with the author has used excellent illustrations and clinical experience to good advantage. After reading the book one is quite ready to admit that the author's opinion of what constitutes a good thyroid surgeon is entitled to respect.

Life Insurance Medicine, a study of some of its problems and their relation to clinical medicine by members of the medical department of the New England Mutual Life Insurance Company.

This report contains some very interesting and very instructive articles. McCrudden gives some very practical, some very important data on periodical health examinations. He is also the author of a chapter on methods of selecting risks among individuals with occasional slight glycosuria. McCrudden also discusses the creatinin content of the urine, giving some tests. Frost is responsible for a chapter on the cardio-respiratory test and one on hypertension and longevity. Ameral presents the reaction of the diastolic pressure to respiratory strain.

International Clinics published quarterly, edited by Henry W. Cattell, M. D., with the collaboration of numerous others. Volume III. Thirty-sixth series, 1926. Published by J. B. Lippincott Company, Philadelphia.

The first article is on gastric function following operations on the stomach, by Reimann and Snellbaker. A paper on the functions of the liver is by Flemming. Norman presents a paper on the importance of vitamins. In this number Bishop has a high blood-pressure clinic with numerous illustrations. Hess presents an article on a cidosis and alkalosis in infancy. Schiff has a very complete article on the management of bronchial asthma. Minkowski has a paper on brain anatomy in which he reports some new observations on secondary regen-

eration, experimental athetosis, the question of aphasia. One of the most interesting articles in this volume is by Keschner and Selinsky on the extra-pyramidal system and its diseases. There are several very excellent articles that have not been mentioned. The volume is well worth reading.

Proctology, a manual, by T. Chittenden Hill, M. D., Instructor in Proctology, Harvard School of Graduate Medicine. Second edition. Published by Lea & Febiger, Philadelphia.

This is not a large book but it seems to cover the subject very thoroughly. The illustrations are instructive and help out the text considerably, especially in describing the methods of examination. Operative procedures are described and illustrated with careful attention to detail. It is on the whole a very excellent treatise.

The Surgical Clinics of North America (Issued serially, one number every other month.) Volume VI, Number III. (Chicago Clinic Number—August, 1926.) 324 pages with 101 illustrations. Per Clinic year (February, 1926 to December, 1926.) Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

The clinic of Bevan consists of a number of stomach cases and a case of carcinoma of the ascending colon. Kanavel and Koch discuss the pre and post operative care of patients. Eisendrath has a clinic in which some cases of undescended testicle and eunuchoidism are presented. Hedblom's clinic covers a variety of cases—Hodgkin's disease with complications; sarcoma of the fourth rib; active progressive tuberculosis. McKenna shows a patient with Kohler's disease; several cases of empyema. Kreuscher presents a case of traumatic osteoarthritis of the elbow joint. McWhorter has a clinic on Pott's disease and deformities. Dyas discusses hyperthyroidism in connection with diabetes. Bernstein illustrates his method of spinal fixation in Pott's disease. Bettman and Biesenthal show a case of bilateral bronchiectasis with description of operative procedures. O'Connor has a clinic on hydronephrosis and pyonephrosis. There are also clinics by Starr, Blaine and McNealy, Christopher, Seed, Andrews, Koucky, Stein, Davis, Greenhill, and by Meyer, Bram and Palmer; and by Lounsburg and Metz.

Modern Clinical Syphilology. By John H. Stokes, M. D., Professor of Dermatology and Syphilology in the School of Medicine, University of Pennsylvania; Professor in the Graduate School of Medicine, University of Pennsylvania. Octavo of 1444 pages with 885 illustrations and text figures and more than 200 detailed case histories. Philadelphia and London: W. B. Saunders Company, 1926. Cloth, \$12.00 net.

Probably this book could have been pro-



duced with greater economy in the use of words, but it would have been much less interesting, less easy to read. The author's discussion of the diagnosis of syphilis must impress the student and the practitioner with the great importance of accurate tests and clinical judgment. In speaking of the Wassermann test he says: "The mastery of the mechanical technic is simple. The mastery of controls and possibilities of error, the ability to find the source of trouble, and the development of judgment in reading and interpretation of factors, is immensely difficult."

His detailed description of methods of treatment will certainly be appreciated by every practitioner. The whole subject is presented in a different way — so different from other texts on the subject that one really enjoys reading it

### Further Fallacies of the Sheppard-Towner Propaganda

WILLIAM C. WOODWARD

Executive Secretary, Bureau of Legal Medicine and Legislation of the American Medical Association  
CHICAGO

1. *In support of pending legislation to authorize appropriations to carry the Sheppard-Towner Act into effect for two years beyond the date originally set for it to expire, it is urged that this is merely a temporary expedient, designed to prevent the loss of the money and effort already expended under the Act. The record shows, however, that is not the case. The extension of the Sheppard-Towner Act now sought, for two years only, is merely one of a series of extensions that will be sought if this extension be granted. In fact, proponents of the Sheppard-Towner plan regard the Act as permanent legislation.*

In the report of the hearing before the Committee on Interstate and Foreign Commerce, House of Representatives, January 14, 1926, on H. R. 7555, the bill authorizing further appropriations for carrying the Sheppard-Towner Act into effect, on page 51, we find the following statement by Miss Grace Abbott, Chief of the Children's Bureau:

"The committee is familiar with the fact that the legislation enacted in the maternity and infancy act is permanent; the only thing that is not permanent is the authorized appropriation for the five-year period."

In the Congressional Record, April 5, 1926, page 6725, the same view was stated

by Representative Barkely, when he spoke in support of the bill:

"My only regret is that this authorization is limited to two years. *I would advise gentlemen of the fact that this is permanent legislation. The Sheppard-Towner bill is a permanent law. It only provided originally for a five-year authorization of appropriations. This merely extends the authorization two years, but the law itself is permanent law.* . . ."

The same view was adopted by Senator Sheppard, in the *Congressional Record*, April 14, 1926, page 7254:

"As to the present status of the measure, let me add that, after consultation with the Budget Bureau and the President, the Secretary of Labor transmitted to Congress a recommendation for the continuation of the appropriations under the maternity act for two additional years. *The act itself is permanent legislation.*"

It could not well be made clearer that the proponents of this legislation expect to keep the Sheppard-Towner plan as a permanent part of our Federal organization. But whether they do or do not plan to go that far, it is clear that they have no intention whatsoever of abandoning the scheme at the end of the two-year extension they now seek. For turning to the printed report of the hearing before the Committee on Interstate and Foreign Commerce, House of Representatives, we find the following:

"Mr. Newton. Now this further question. Do you consider that the two years is sufficient?

"Miss Abbott. Well, I do not consider it sufficient if it is to end at the two-year period. I did not think in asking that period of time that that was the intention either of the Secretary of (or) the President that there was to be no further extension after the two-year period." *Page 12.*

"Mr. Lea. What time would you specify for a certainty that, in your judgment, the United States should remain in this work?

"Miss Abbott. Well, I do not want to specify for a certainty.

"Mr. Lea. Do you think four years?

"Miss Abbott. No; I would rather say five as the time that the Government would without question need to continue the work.

"Mr. Lea. You are certain that the Government should stay in for five years?"

"Miss Abbott. Personally, I am; yes. But I am supporting the recommendation of the Secretary and the President for the two-year period, with a view to showing accomplishments and needs still existing at the end of that time." Page 14.

"Mr. Rayburn. You would not hazard an opinion on just when you think you could recommend that the Government go out of this supervision?"

"Miss Abbott. No; because I think it is a factual thing. I am not a prophet, after all, as to when that condition may come to pass." Page 15.

With such testimony as that of Miss Abbott, the statement that has been made in support of the pending bill, that "there is no disposition to extend Federal cooperation beyond the next one or two years," is certainly without foundation.

2. *Attempts to justify an extension of the life of the Sheppard-Towner Act by showing the extent of activities in the field of maternal and infant hygiene since that act was passed are inadequate unless they show the results of such activities, and this they do not do.*

"Child-health conferences," "school conferences," "infant clinics," "institutes," "public talks," "patterns distributed," "milk letters, with instructions to mothers," and similar activities (*Congressional Record*, April 14, 1926, pages 7254-7272) are at best merely agencies to conserve health and life. Evidence showing only that such activities are going on does not prove that they are accomplishing that result. Such evidence is even further from proving that such activities are being conducted efficiently and economically, or that they are being conducted under the Sheppard-Towner Act better than they could have been conducted by the states alone. The evidence offered is inadequate, too, to permit intelligent judgment as to the relation of such activities to the Sheppard-Towner Act, for such evidence very generally fails to show the nature and extent of similar activities in the same jurisdictions before the act was passed.

3. *The assertions that have been made that there have been substantial reductions in infant and maternal mortality, with the implication that such reductions have been due to the Sheppard-Towner Act, are not supported by the evidence.*

In the *Congressional Record*, April 5, 1926

on page 6720, in the argument of Representative Newton in support of the Act, the following appears:

"Since the operation of this act there has been a substantial decrease in both the infant mortality and the maternity death rates."

Representative Newton then submits tables showing that in three Sheppard-Towner years, 1922-1924, inclusive, the infant mortality rate for the registration area fell from 6.8 to 6.6. Such a decline could hardly be regarded as "substantial." But even if it were, it could not be accepted as an argument in favor of the Sheppard-Towner Act; for during the three years immediately preceding, namely, 1919-1921, inclusive, the infant mortality rate fell from 101 to 76, and the maternal mortality rate fell from 9.2 to 6.8. Of course, we know that the improvement shown by the figures last stated was only relative and that the decline was great because of the high mortality due to influenza in the year preceding the triennium named and from which the decline is computed. But what the improvement in 1922-1924 was due to, and how long it will continue, we do not know.

As a fallacious argument offered in support of the Sheppard-Towner bill recently passed by the House, we find the following by Representative Barkley, in the *Congressional Record*, April 5, 1916, page 6725:

"Taking the United States as a whole, in 1920, which was the year before the enactment of this law, the number of children who died in infancy amounted to 86 out of every 1,000 in the United States. In 1924, four years after the passage of this law, the death rate among children in the United States had been reduced from 86 to 71 per 1,000. This is a reduction of nearly 20 per cent in less than four years."

The Sheppard-Towner Act was not approved until Nov. 23, 1921. Obviously, its enactment could not have influenced the infant mortality rate for 1921. Why, then, did not Representative Barkley take the infant mortality rate for 1921 as a basis for comparison, instead of the infant mortality rate for 1920? The infant mortality rate for 1921 was 76. The decline, therefore, under the Sheppard-Towner regime was from 76 to 72. It was only 5 per cent in three years, not 20 per cent in less than four years as stated. And no evidence is offered to show that the Sheppard-Towner



Act had anything to do with even such decline as did occur.

4. *Statements made to show the extent to which infant and maternal mortality are preventable, in support of an argument for the enactment of the pending legislation, are without adequate foundation.*

In the *Congressional Record*, March 31, 1926, page 6434, Senator Sheppard is quoted as referring to certain studies and investigations made by the Children's Bureau as follows:

"It was found that nearly 20,000 mothers and almost 200,000 infants under 1 year of age were dying in the United States every year *from lack of proper knowledge as to the hygiene of maternity and infancy.*"

As a matter of fact, according to the Twenty-fourth Annual Report of the Bureau of the Census, covering Mortality Statistics, 1923, published in 1926, page 126, there were in the entire registration area of the United States in 1923, only 166,274 deaths of children less than one year old, from all causes. The estimated population of the registration area was 96,986,371, and the estimated population of the entire continental United States was only 110,663,502. (See Report cited, page 8.) And yet, unless Senator Sheppard has misinformed us, investigations by the Children's Bureau disclosed the fact that almost 200,000 infants under one year of age die in the United States every year *from lack of proper knowledge as to the hygiene of maternity and infancy.* If the reported findings of the Children's Bureau are correct, where do the extra 34,000 babies come from each year, who die from lack of proper knowledge? And where do all the babies come from who die every year from other causes?

A similar discrepancy exists with respect to maternal mortality. In support of the Sheppard-Towner Act, the Children's Bureau is quoted as authority for the statement that "nearly 20,000 mothers . . . were dying in the United States every year from lack of proper knowledge as to the hygiene of maternity and infancy." And yet the Report of the Census Bureau, cited above, page 176, shows that the total number of deaths in 1923 in the entire registration area, containing nearly nine-tenths of the population of the continental United States, from accidents of pregnancy and labor, and hemorrhage, blood poisoning and other conditions incident to the puerperal state, was only 15,505.

5. *Comparisons between maternal mortality in the United States and maternal mortality in other countries, to the discredit of the United States, are not justified by comparable records.*

Referring to studies and investigations made by the Children's Bureau, Senator Sheppard, according to the *Congressional Record*, March 31, 1926, page 6434, said:

"Reports from the birth-registration area of the United States showed that from 1915 to 1920 the death rate of mothers from causes relating to maternity was increasing. It was shown that the death rate of mothers in the United States from these causes was the highest for any nation in the world for which recent figures could be obtained, and that seven foreign countries had infant death rates lower than the United States."

The reason for the increase in maternal mortality in 1920 as compared with maternal mortality in 1915 is not hard to find. In 1920 many expectant mothers died from influenza, and their deaths were charged to pregnancy; in 1915, influenza did not contribute to such mortality.

But probably the most overworked figures that have been used in the support of the Sheppard-Towner propaganda are such as those referred to above, purporting to show an exceedingly high maternal mortality rate in the United States as compared with the maternal mortality rates in other countries. Concerning comparisons of that kind, the Bureau of the Census has this to say:

"As already pointed out, the classification of deaths from puerperal causes differs greatly in different countries. Higher rates in one country than in another, therefore, do not necessarily mean higher mortality from these causes. However, as classification in a given country presumably differs but little from year to year, the rates do presumably serve as useful measures of mortality from these causes within the country itself.

"Comparing the rates of 1923 with those of 1915, for puerperal septicemia, the United States shows the same rate for both years, England and Wales a reduction of 13.3 per cent in its rate, Australia an increase of 30.8 per cent, New Zealand an increase of 137.5 per cent, and Scotland the same rate for both years. For other puer-

peral causes, United States shows an increase of 5.4 per cent; England and Wales a decrease of 7.4 per cent; Australia an increase of 17.2 per cent; New Zealand a decrease of 15.4 per cent; and Scotland an increase of 7.1 per cent." *Twenty-fourth Annual Report, Bureau of the Census, Mortality Statistics, 1923, published in 1926, page 64.*

Just what comfort Sheppard-Towner propagandists can get out of these figures is hard to see.

6. *Even if it could be admitted that infant and maternal mortality rates were as bad as the proponents of the pending legislation assert, and that it is as easily reducible as some of them claim, there is no evidence to show that preventive measures can be applied more effectively by the Federal Government than by the State.*

So far as is known, not a single advance in methods for preventing infant and maternal mortality has been made by the Children's Bureau since the Sheppard-Towner Act was passed. It has merely adopted methods devised and in use by the several states and cities of the country. Obviously, supervision and control of such activities over the entire land area of the United States, approximately 3,000,000 square miles, by a federal bureau in Washington, must entail a heavy overhead expense—or must be supervision and control on paper only.

— R —

Required by the Act of Congress of August 24, 1912, of the Journal of the Kansas Medical Society, Published Monthly at Topeka, Kansas, for October 1, 1926.

State of Kansas, County of Shawnee, ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared W. E. McVey, who having been duly sworn according to law, deposes and says that he is the editor of the Journal of the Kansas Medical Society and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of	Post Office Address
Publisher—W. E. McVey, under direction of the Council of the	

Kansas Medical Society.....	Topeka, Kansas
Editor—W. E. McVey.....	Topeka, Kansas

Managing Editor—None.

Business Manager—None.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)

Kansas Medical Society, F. A. Carmichael, Oswatomie, Kansas, President; Dr. J. F. Hassig, Kansas City, Kansas, Secretary; Dr. Geo. M. Gray, Kansas City, Kansas, Treasurer.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relations, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is: (This information is required from daily publications only.)

W. E. McVEY, Editor.

Sworn to and subscribed before me this 25th day of September, 1926.

EVANGELINE INGERSOLL,

(Seal.)

Notary Public.

(My commission expires April 15, 1929.)

— R —

## Decline in Animal Tuberculosis Is Shown in U. S. Charts

According to charts prepared in the Bureau of Animal Industry, United States Department of Agriculture, bovine tuberculosis has shown a general decline since 1916, and tuberculosis of swine has decreased since 1924. The charts, which are based on records of Federal meat inspection, cover a sufficiently large number of animals to be considered representative of conditions in the cattle and swine industries.

Though improvement of the tuberculosis situation is shown, infection among cattle and swine received at federally inspected packing establishments is still rather extensive. Records for the fiscal year 1926 show that nearly 14 per cent of swine showed tuberculosis to some extent, though lesions were of a minor nature in a large



proportion of the cases. The corresponding figure for cattle was 1.3 per cent for the same period. In 1916 about 2.3 per cent of cattle showed infection, one per cent more than last year. In 1924, about 15.2 per cent of the swine inspected were diseased. Reports from field workers indicate that the large extent of infection among swine is caused partly by tuberculous poultry. Accordingly, fowl tuberculosis has been receiving special study by tuberculosis, eradication officials.

Coincident with the decline of this disease among cattle and hogs, a decreasing human death rate from tuberculosis is shown by a recent report of the Department of Commerce. The low death rate of children under four years may be attributed in part to the aggressive campaign for testing tuberculous cattle and disposing of reactors. Since 1917, when the present tuberculosis campaign was undertaken, more than a million reactors have been removed from the cattle of the United States.

### Physical Therapy

The Council on Physical Therapy of the American Medical Association publishes a report on the present status of physical therapy. The Council cautions that while there are certain definite indications for the use of some one or a combination of several physical agencies in the treatment of disease, it is harmful practice to depend on these agencies alone, to use them in place of better proved methods, or to employ them without having first thoroughly studied the patient from the standpoint of diagnosis. The Council warns against the indiscriminate use of physical measures and the danger that their use may lead into dishonest practice or quackery. The physical measures that have been found to have certain therapeutic value include: 1. Heat, Natural and Artificial. 2. Hydrotherapy. 3. Light. 4. Electricity. 5. Massage. 6. Therapeutic Exercises. The Council feels that the following considerations must receive the most careful attention of the medical profession: 1. Physics, physiology and biochemistry must be called on to dispel the empiricism of the past and to prove the value of various physical agencies. 2. Physical therapy must be recognized as a definite part of medicine, practiced and controlled by graduate physicians. 3. Since physical therapy is a definite part of medicine, every medical school should give thorough training in this subject. 4. Persistent, prolonged effort must be made to

eradicate the abuses of physical therapy. The Council proposes to point out to the medical profession the advantages and the disadvantages of physical therapy so that its abuses may be reduced to a minimum, and its scientific possibilities may be appreciated.—(Jr. A. M. A., Oct. 16, '26.)

### Spread of Tuberculosis Within Families

Eugene L. Opie and F. Maurice McPhedran, Philadelphia (Journal A.M.A., Nov. 6, 1926), have made a careful study of the contagion of tuberculosis in approximately 350 families for a number of years. They believe that the studies have definitely shown that latent tuberculosis is transmitted both to children and to adults. Though in most instances it remains hidden, it not infrequently produces manifest disease. In a large proportion of husbands or wives who have been exposed to open tuberculosis of the consort during a long period of years, latent apical tuberculosis with the character of the lesion frequently found at necropsy has been demonstrable by roentgenograms. The small groups of families that have been studied show a high incidence of marital tuberculosis. In three of twenty-one families with open tuberculosis in which the necessary examinations were possible, there has been manifest tuberculosis in both husband and wife. Manifest tuberculosis in one consort and latent apical diseases in the other has occurred in seven instances. Since in approximately one-half of these families (47.6 per cent) both husband and wife are infected, there can be little doubt that the disease has been transmitted from one to the other. In non-contact families the incidence of recognized latent apical disease has been one in fourteen (7.1 per cent). In four instances, latent apical tuberculosis has been found in older children of families in contact with tuberculosis discharging tubercle bacilli. The ages of these children have varied from 14 to 21 years. It is not improbable that these lesions may produce manifest disease in early adult life.

### Secondary Tumors of Brain

Cases of metastatic tumor of the brain are arranged in four groups by Walter D. Sheldon, Rochester, Minn. (Jour. A.M.A., Aug. 28, 1926). The first group is composed of cases of latent malignant disease, the initial symptoms of which are due to cerebral metastasis. Ten such cases are cited. Group 2 is composed of cases of ma-

lignant diseases which are symptomless but demonstrable on examination, and the initial symptoms of which are cerebral. Six cases are cited. In group 3 belong the cases in which malignant tumors have been surgically removed, and cerebral symptoms are the first evidence of recurrence. Eight such cases are cited. In group 4 are the cases of malignant disease which, during its clinical course, metastasizes to the nervous system, with or without the production of definite symptoms. Sixteen cases in this group are cited. Shelden says that metastatic tumors present on essential characteristics which distinguish them from primary tumors of the brain. All patients presenting evidence of brain tumor should be carefully studied for evidence of secondary tumors or a primary tumor elsewhere. Roentgenograms of the chest and skull should be taken as soon as symptoms suggesting brain tumor appear, both for their immediate value and for comparison with later studies.

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### R

#### Inhalants

The upper respiratory tract is armed by nature against bacterial invasion, but a little timely assistance when infection is just gaining a foothold is sometime needed. The medicament used should not be of such a nature as to denude the nasal or pharyngeal epithelium of its protective mucus; on the other hand, it should be of a tonic or slightly astringent character—something that will moderate the catarrhal condition and assist in opening up the congested sinuses, without risk of injury to the delicate tissues.

The styptic or constricting effect of Adrenalin on the superficial capillaries, reducing congestion, is well known, and, although the 1:1000 solution in water is too active for use in rhinitis and related conditions, this concentration in vegetable oils is about right—for the Adrenalin is only slowly released from the vehicle and so a mild but persistent action is to be expected.

In this connection the reader is referred to the advertisement of Adrenalin Inhalent in this issue.

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### R

#### Hyperreflexia of Lower Limbs After Exercise

During the recent war, William G. Spiller, Philadelphia (Jour. A.M.A., Aug. 28, 1926), had the opportunity of studying the effect of forced marches on certain young men who had been taken from sedentary occupations and forced to carry heavy equipment on long hikes. A case is cited

in which sudden paralysis of the lower limbs developed following on a march. Recovery ensued. The interesting features in this case are that the man had had no symptoms in the lower limbs until he began to take long hikes, from 8 to 12 miles a day, without previous training, and had carried an equipment which was said to weigh between 50 and 60 pounds. When the patient was examined by Spiller four years later, his patellar reflexes were markedly exaggerated, and he had bilateral patellar clonus, persistent ankle clonus on the left side and probably bilateral Babinski sign. It seemed evident that organic change had occurred in the spinal cord probably in relation to excessive exercise. A case is also cited in which there was increased reflex activity after slight exercise of muscles when there could be no possibility of exhaustion. This phenomenon is of rare occurrence and would seem to indicate that some abnormal condition of the central motor tracts must exist when it is observed. It seems to Spiller that it may be an early sign of degeneration of the pyramidal tracts.

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### R

#### Identification of Streptococcus of Scarlet Fever

The results of experiments made by Ruth Tunnicliff, Chicago, (Jour. A.M.A., Aug. 28, 1926), indicate that concentrated convalescent scarlet fever serums and the serum of rabbits properly immunized with scarlatinal streptococci are equally specific and are helpful in identifying scarlatinal streptococci, in studying doubtful cases of scarlet fever and in discovering carriers. By making opsonic tests directly with streptococci from colonies on the original blood agar plate, it is possible to detect scarlatinal streptococci sooner than by agglutination or toxin production as now determined.

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# THE JOURNAL

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### Nephrosis

C. A. LILLY, M.D., Atchison

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, May 4-6, 1926.

In the consideration of nephrosis as well as nephritis or any of the nephritides it is well to bear in mind those anomalies of shape and position of the kidney secondary to maldevelopment in early embryonic life. The kidney is developed from the Wolffian body at a very early period and normally ascends to the renal fossa by the fifth or sixth week. If this ascension does not take place by this time, the kidney will remain permanently fixed in whatever location it happens to find itself at that time. It usually attaches itself to some segments of the vertebral column, where it remains permanently fixed throughout the life of the individual. The anomalous position of the kidney naturally necessitates an anomalous ureter which is in itself a not infrequent cause of improper drainage of the urine to the bladder and secondarily, improper function of the kidney.

The anomalies in the shape of the kidney such as the "L" and "Horse-shoe" must be borne in mind. A polycystic kidney may be the etiology of a sudden renal shut-down or it might function normally throughout life to be accidentally found at a post-mortem.

Furthermore in the consideration of nephrosis it is quite important to have at least a bird's-eye view of the physiological function of the normal kidney.

It is, of course, not the purpose of this paper to discuss the physiology of the kidney, but there are six kidney functions well enough understood to be of value to the clinician.

The first function of the kidney that is of value to the clinician in the study of nephrosis is the water balance function or that function of the kidney that maintains the proper proportion of water in the blood to the fluids of the tissues of the body and a normal amount of water in the body.

The second function of the kidney is the function to concentrate, that is to eliminate a large amount of solids in a limited amount of water. This function is neces-

sary because sudden strains are often put on the kidney as is exemplified by a high concentration of urine after a full meal during which little fluids have been ingested.

The third function of the kidney is the elimination of sodium chloride. Physiologists have for many years recognized the fact that the kidney must maintain the proper sodium chloride balance in order to maintain the proper osmosis. The sodium chloride balance is and has been the subject of a tremendous amount of work by both physiologists and clinicians and many diseases such as nephrosis, hypertension, have been at different times attributed to a disturbance of the sodium chloride balance. Just how sodium chloride functions is not known.

The fourth function of the kidney might be termed the hydrogen-ion concentration or the acid base balance of the blood. This is a very important function as the slightest variation from the normal produces serious disturbances as is seen in diabetic acidosis, the acidosis of nephritis, starvation and persistent diarrhea. This function is by selective elimination of acid and the production of ammonia. The kidney manufactures ammonia just as the pancreas manufactures insulin.

The fifth function of the kidney is its function to eliminate foreign substances from the blood as is seen in increased blood sugar above 1.7 and is also seen by the elimination of phenol-sulphon-phthalein in the phenol-sulphon-phthalein kidney test.

The sixth function, which is the most important and the best understood kidney function, is the nitrogen waste function which is seen so constantly to fail in chronic nephritis.

This brief review of the physiology of the kidney is a great deal simpler than its clinical application. While any one of these six functions can fail and perhaps often do fail we are not far enough advanced to pick out any one function that is at fault, although it has been attempted but never definitely proven. Allen of Morristown, New Jersey, believes that essential hypertension is nothing more than a sodium chloride nephritis due to the failure of the

kidney to maintain the proper or normal sodium chloride balance. Any one of these six functions, any two of them, any three of them, any four of them, any five of them, or all of them can fail, for instance the first and the sixth can fail, the first and second and sixth can fail, or the last four can fail, or any combination of these six functions can fail, which makes theoretically a mathematical possibility of several hundred different kidney conditions. This may account for the fact that every case of nephritis must be studied and treated as an individual case as no therapy that is adequate in one case will be adequate in another. While we are unable today to prove the failure of any one individual function we can prove the failure of a group of these functions. In chronic nephritis we have a failure of four functions; we have a failure of the kidney in chronic nephritis to eliminate; first, foreign substances; second, to eliminate nitrogenous waste substances; third, the kidney fails to concentrate; fourth, it fails to maintain the normal acid base balance of the blood; these four functions seem to group themselves together. A second group, consisting of the water balance and the salt balance seem to group together, and as we understand it today a failure of the salt and water balance of the kidney is what really occurs in nephrosis. Nephrosis is not a true nephritis. In nephrosis there is no retention in the blood of nitrogenous waste. The acid base balance is normal because the  $\text{CO}_2$  combining power of the blood is normal, the ability of the kidney to eliminate foreign substances is normal because the "Red" test does not fall below 35 or 40 and the ability of the kidney to concentrate is not impaired because the specific gravity of the urine is often high and does not become persistently low and stay low as is so often seen in chronic nephritis. It is true, however, that after a nephrosis has existed for some time it can go over to a nephritis when the clinical and laboratory findings of a true nephritis will be present.

A nephrosis is a distinct disease due to some disturbance of the protein and lipid of the blood originating in an unknown disturbed metabolism. What that disturbance is due to is problematic. Some observers contend that it is a toxemia, some that it is due to some endocrine disturbance. The kidney may have an internal secretion as has the thyroid and the pituitary body; the same is true of the liver and the pancreas, yet no satisfactory explanation for nephrosis is known and its etiology is as much

a mystery as ever. Nephrosis may not be a kidney disease at all but only a disease that manifests itself through the kidney as diabetes manifests itself through the kidney where the real etiology is pancreatic in origin.

The condition was thoroughly studied in 1917 by Epstein, yet something was known of it as early as 1902. It is usually seen in children or young adults, yet no age enjoys an immunity. It is slow of onset and gradually progressive. In the old classification of nephritis it belonged to the group known as chronic parenchymatous nephritis. The patient never knows really when the condition begins. Its chief symptom is edema.

Epstein thinks that the edema is due to a change in the plasma protein which results in a reverse osmosis.

The blood pressure is not increased. The urine is loaded with albumen, showers of granular and hyaline casts are to be found, the specific gravity is high, but there are no blood elements to be found in the urine for no red blood cells show in the microscopical specimen and of course no blood casts.

The blood chemistry does not show an increase of the N. P. N. group. The urea, uric acid and creatinin are all within normal limits.

Epstein thinks that the nitrogen group is retained in the tissue and does not escape into the blood. But a cholesterol increase is always noted and cholesterol is the diagnostic landmark of nephrosis. The origin of cholesterol is not definitely known, it is both exogenous and endogenous in origin. Normally it runs from 0.14 mg. to 0.17 mg. per 100 c.c. of blood. In nephrosis it is high up to 2 or 3 or over.

Mosenthal says that a cholesterol of 5 is always fatal.

The serum globulin and the serum albumen are also affected. The serum albumen runs normally about 4 mg. or 5 mg. per 100 c.c. of blood. It is low in nephrosis usually down to 1.75 to 2.75. The serum globulin which is normally about 2 or 3 is increased and is usually found about 3.75, even up to 5. Their proportions are therefore reversed. The blood picture is that of a secondary anemia only. The basal metabolism is low, minus thirty is not uncommon.

In the course of a nephrosis this picture can change at any time as a glomerular nephritis is often seen to overlap a nephrosis. The eye grounds of a nephrosis should be frequently read as a change speaks for a beginning nephritis. As long



as there is no change in the eye grounds a spontaneous cure in a nephrosis may be hoped for.

In a case of edema with marked albuminuria where a blood chemistry is not available one can feel reasonably certain that there is no nephritis if the specific gravity of the urine will rise sharply after the simple ordinary dry meal test.

Furthermore, a normal individual or an individual with nephrosis will eliminate 800 to 1000 c.c. of water within four hours after its ingestion which, of course, a nephritis will not. This simple test will ordinarily enable one to differentiate between a nephrosis and a nephritis. A nephrosis is prone to develop pneumococcus peritonitis.

The treatment is unsatisfactory, spontaneous recovery is not uncommon, and yet, as has been said, a glomerular nephritis is frequently seen to occur and change the entire clinical picture.

Sodium chloride should be eliminated because it helps to retain water in the tissue. Fluids should be restricted to 1200 to 1500 c.c. a day. The basal metabolism should be brought up to normal and held there with thyroid extract. Most observers advise a high protein diet.

A nephrosis should not be starved. 2000 to 2500 calories of food should be given a day. From 20 to 40 grams of fat and from 200 to 300 grams of carbohydrates, the balance being made up of the protein diet.

However, Allen of Morristown, New Jersey, does not agree that a high protein diet is advisable. He says the feeding of high protein is theoretically unsound and that a high protein diet is eventually harmful. At least he says that he has not observed any benefit from a high protein feeding.

Atchley of Columbia gives no milk on account of the salt contained in milk. Parathyroid is given for the purpose of increasing the output of urine. Five to ten grams of calcium chloride a day is advised by some.

In England, diuretics are used a great deal in the treatment of this condition. As far as I can learn, most Americans use them cautiously as great harm can be done by them. Theobromine, diuretin, urea and many others have been extensively employed with indifferent success. Mosenthal finds that large doses of quinine are safe and at times are efficient diuretics.

All diuretics containing mercury should be avoided because of the danger of irritating the kidney.

Sweating and purging is of questionable value and often harmful, as little or no

nitrogen waste is eliminated by it and the loss of water compels the kidney to concentrate. In nephritis, sweating and purging may produce a uremic convulsion.

To summarize—Nephrosis is a disturbance of the lipid metabolism, a degenerative process rather than an inflammatory process.

Its etiology is unknown. It is usually seen in young individuals although no age is exempt.

Remissions are common and spontaneous recoveries may occur, yet a true nephritis often overlaps a nephrosis and closes the scene.

It is the rarest of the nephritides. It is characterized by a high blood cholesterol.

An increased cholesterol may occur in a nephritis, but it is not constant and high as in nephrosis.

In billious obstruction a sharp rise in cholesterol may be seen.

An accidental ligation of the common duct was followed by a cholesterol of 9 mg. per 100 c.c. blood.

Cholesterol may have some direct action on the red blood cell. It is found low in anemia, in one case down to .09 mg. per 100 c.c. blood.

Cholesterol is a lipid of the alcohol group and just what part of it plays in the metabolism is not known, but at present it seems to be the key to nephrosis.

—R—

### Disinfection of Fresh Wounds

H. L. CHAMBERS, M.D., Lawrence

Read at the Annual Meeting of the Kansas Medical Society at Kansas City, May 4-6, 1926.

1. A wound is a solution in the continuity of the skin or of the mucous membrane. Its cause will be some sort of violence. A fresh one differs from an older one chiefly in two respects—the infection, if any, is superficial and there has been no attempt at repair.

Accidental wounds differ from the surgeons' wounds chiefly in that they damage the tissues more in proportion to their size, are not what the philosophers call "purposive," and are much more likely to be seriously contaminated.

Wounds are annoying because disagreeable cosmetically and because they interfere with function, they are dangerous because of hemorrhage and the chance of infection.

They fail to heal because of malposition of parts, the presence of foreign bodies, and (or) the presence of infection.

Viewed then either from the standpoint of danger to the patient or of difficulty to

the surgeon, infection is the big factor in the problem of wound management.

2. We think the modern idea of preventive medicine whereby we strive to have no accidental wounds, and if we do have them, whether accidental or intentional, to have them sterile, is by far the best and most nearly ideal. But, since we must attack wounds as we find them, we have three more or less distinct and fairly definite modes of procedure: (1) Mechanical Cleansing, (2) Chemical Purification, (3) Physical Sterilization.

Of these, mechanical cleansing does well enough for macroscopic dirt, but fails nearly 100 per cent when applied to bacteria. Some special forms of it like continuous irrigations with normal salt solution or with Ringer's solution may be made to yield satisfactory results, but are cumbersome to operate. Also, the complete excision of the infected wound is more or less effective, but it is expensive in tissue and requires a certain desperate callousness on the part of both surgeon and patient that will ordinarily be lacking.

Chemical purification succeeds much better, but in most cases leaves something to be desired. For instance, the oxidizing substances like hydrogen peroxide and potassium permanganate will, if applied in sufficient strength and for long enough time to purify a wound, also do such violence to the raw tissue as to prevent union if the wound be closed. However, I have found the permanganate crystals quite satisfactory for cauterizing the small wounds amounting to little more than abrasions caused by dog bites. It enables one to put a sterile scab on such a wound at once.

Phenol and kresol do harm to the tissues such as to delay or prevent healing and often make the sound skin sore, so are to be used only when one cannot do better.

The essential oils are all more or less effective, but are expensive, are likely to irritate severely, and all tend to degenerate into turpentine, which is probably the best of them anyway. Turpentine has considerable merit as a household antiseptic and one might do worse than encourage his clients to dress their small wounds in it. It if open to criticism in that it is gummy, smelly, may blister the skin, and occasionally will cause a suppression of urine.

Boric acid is too feeble and uncertain and salicylic acid is too destructive for use if we can do better.

Silver nitrate is too severe for wounds of any size and too destructive for anything but actual cauterization in the smaller ones.

Argyrol and the like are not recommended for open wounds because of the possibility of permanent staining.

A former generation of clinicians dressed their wounds in potassium carbonate, thus making a handicap against the streptococcus and in favor of the staphylococcus, favoring (they thought causing) the formation of "laudable pus." They got slow, safe healing with considerable scarring. Our present ideal is to have no pus at all with immediate union and the very minimum of scarring.

Alcohol and iodine singly or together are effective but painful and, if used to any degree, will delay or prevent union.

Dakin's solution of chlorine is effective, but to work well must be carefully and freshly made up and must be applied after Carell's method, which is a specialty in itself.

Four salts of mercury have been much used, of which, the one most employed, the bichloride, is least desirable. It coagulates and kills the raw tissues thus preventing union till the slough has dissolved and come away, burns the patient unpleasantly, and takes the finish off one's instruments.

Mercury cyanide is more bactericidal than the bichloride, does not attack instruments, but does kill tissues to some extent. I have had it kill a patch of skin when used in a wet dressing under oiled silk.

Mercurochrome solution is effective and, so far as I know, does not prevent healing, but it has such a conspicuous color that one dislikes to brand a patient with it or to take the chance of bedaubing his office by its use.

Mercuric iodide has all the bactericidal power of the bichloride, but does not require so strong a solution. It does not do a fresh wound any harm by washing or soaking for any reasonable time in any reasonable strength of solution. Lastly, it does not attack the finish of instruments. The main purpose of this little paper is to say something appreciative of this salt and to recommend it for your consideration.

Before going on to speak of this form of mercury, let me pause to observe that physical sterilization of wounds is least practiced and least practical of all the methods that have been tried. It is usually done with a Paquelin cautery or with some sort of electrically heated device. It is effective but does not allow immediate healing nor permit a controllable scar.

3. Mercuric iodide is usually used in some alkaline solution, is effective in 1-5000 strength, does not cause smarting in



wounds nor irritation on skin, and does not affect instruments nor metal containers. In disinfecting a fresh wound, it should be opened out as completely as possible, clots and tags removed, using scissors if need be, and all raw surfaces along with all recesses mopped, swabbed, scrubbed, and soaked with the solution for some time—say two to five minutes. If there is to be a little delay about anything, fill or cover the wound with compresses wet in the solution and let it soak while the delay lasts, i. e., while you are getting your sutures or Michelle clips ready. If there is any doubt about the attainment of complete sterilization along the margins of the wound (when isn't there) cover the closed wound with thick, wet compress under oiled silk and let alone for a day. At end of this time the wound will usually be found healed under a snug scab and small ones in most situations should be left without further dressings. This sort of dressing kills an erysipelas before it gets started, and I know of no other effective antiseptic that could be so used in safety.

4. In the last eighteen years I have used this solution in the care of several hundred accidental wounds with almost unvarying satisfaction and come to expect practically all fresh wounds, cleaned up with it, to heal as well as those made under aseptic precautions. This is the reason for my confidence in it and the background for my recommending it to you with as much enthusiasm as I ever permit myself about anything. A few case summaries may help you to visualize what may be expected from a proper use of this antiseptic.

(a) A 70-year-old woman was thrown from a taxicab and landed on her head on the brick pavement, making a 5 cm. cut across forearm and a 11 cm. one across head with scalp pulled back to uncover one-fourth the calvarium. After cutting away hair, wounds were cleaned and dressed as directed and healed promptly without pus.

(b) A woman aet. 45 runs her hand into power wringer and tears the whole palmar surface off from above, downwards, leaving it attached only at the bases of the fingers. Cleaned and dressed as recommended, wisps of cat gut were put in angles of wound for drainage. Immediate healing without pus.

(c) Man, age about 35, runs hand into rolls in paper mill, tearing the palm completely across and down to the flexor tendons at the line of fold opposite the knuckles. Cleaned as recommended, closed in two layers, and gut drains left in angles for two days. Healing was prompt, but

there was an accumulation of synovia from the tendon sheath of the ring finger, which had to be provided for during a few days. Never any pus or fever.

(d) Woman of 35 is knocked down and dragged in the street by an automobile. Scalp cut through for more than five inches and pulled down. Hair was cut off, wound freed of macroscopic dirt, washed as recommended, some of the shredded pericranium cut away, and wound closed with Michelle clips without drainage. Considering the look of the naked and abraded bone, I thought some of the outer table might die and make trouble of a secondary sort. Healing was perfect and clips and dressings were dispensed with at end of three days. After a third of a year, I am still uncertain about what the bone may do.

(e) Woman aet. 49 runs hand into power wringer and tears skin off back of it down and onto the fingers. The rolls ran long enough to get a pull on some of the extensor tendons and the tendons of the extensor communis to middle and ring fingers were dragged down from the forearm bringing, each, a part of the muscle with it. That of the ring finger was about seven inches long and that of the middle finger was about ten inches over all i. e., including the attached tag of muscle. The wound was soaked with extra care, the tendons cut off as close as possible to the fingers and closure was made with one day's drainage with wisps of catgut sutures. There was no pus or other moisture and healing was immediate, but a small area at the tip of the skin flap had insufficient blood supply and no lymph return, so that a strip about one-half by one and a half cm. died. It just dried up and acted like a scab, like which it was finally separated and pushed off by the epithelium which grew under it.

(f) A man, aged 41, while mowing away hay, gets a smashing blow on the front of the leg when some part of the machinery broke. At first examination I found a bit of bone one-half by two and a half inches loose in his trousers, a vertical wound three inches long over middle of tibia, with another piece of bone sticking up through it. Under a general anesthetic the wound was enlarged upward and downward an inch and a half each way, much more bone taken out, the whole thing well sopped and soaked and the wound closed except for a gauze wick at each end of it to care for the oozing. These drains were removed in two days. Skiagrams then showed rather more than two-thirds of the substance of the tibia gone for a distance of six inches, with the

remaining part much comminuted, and also a comminuted but not compound fracture of the fibula. Healing occurred without suppuration or fever and the man finally grew in enough bone to support him.

(g) Case "g" shows that the army idea of "A-T-S" for every wound is not so bad. A man of about 50 was caught in a falling wall so that his hand was sheared between brick edges, making a wound about three inches long between the second and third metacarpal bones and involving both dorsal and palmar surfaces. Wound was cleaned somewhat hurriedly, according to recommendation and a bunch of wet gauze was left in for a day, after which it was supported by dressings, but no sutures or clips. Healing in the deep structures, but the skin was so rough and so ragged that it did not heal well, especially on the palmar aspect of the wound. At about ten days the man slowly developed a mild case of tetanus, but the hand went on healing except at one place. The x-ray located a bit of mortar in the deep part of the wound and healing was rapid after it was removed. Obviously, my cleansing was not thorough even for the macroscopic dirt.

5. May I summarize by saying:

1. Wounds should be sterilized and closed as soon as possible after they are made.
2. Opening out and exposing every part of the wound is very important.
3. Chemical sterilization is so far the most practicable method to employ as routine procedure.
4. Mercuric iodide is the safest and most effective germicide I have tried.
5. A wet antiseptic dressing is recommended for the first twelve hours for accidental wounds, especially for those closed by Michelle clips.

—R—

### Cholecystography

WARREN H. COLE, M.D.,\* St. Louis, Mo.

Since the introduction of cholecystography by us<sup>1</sup> three years ago, we have instituted many changes in an endeavor to simplify the method and enhance its value. A short time ago we began the clinical use of phenoltetraiodophthalein, which is not to be confused with tetraiodophenolphthalien<sup>2</sup>, utilizing the simultaneous use of determinations of liver functions and cholecystography. In a series of 55 cases by the intravenous method, its value has seemed so much superior to tetraiodophenolphthalein, that we have adopted it as a routine meas-

ure in gall bladder diagnosis. Phenoltetraiodophthalein is an isomer of tetraiodophenolphthalein, differing from it in the location of the iodine atoms in the molecule.

The dose of phenoltetraiodophthalein as now used is 40 milligrams per kilo. Regardless of the weight of the patient, however, the dose need not exceed 2.5 grams. The dye is dissolved in freshly distilled water, filtered through fine filter paper and sterilized in a boiling water bath for 15 minutes. If the dye is given in very dilute solution, the tendency toward reaction and thrombosis of veins is practically eliminated. The freedom from reaction after phenoltetraiodophthalein has been so prominent that we usually use an 8 per cent solution. At the present time we are running a series comparing the use of an 8 per cent solution with a series of injections using a solution diluted up to 100 cc. with sterile Ringer's solution. We have not seen any sloughing of tissue following the injection of this dye used in the dilutions above mentioned, and feel that it is practically impossible to obtain one, unless a huge amount of the dye is injected subcutaneously. In the present series of 55 cases there have been only three reactions, and these consisted only of slight nausea and vertigo, all of which disappeared within an hour or two. An apparent advantage of phenoltetraiodophthalein over the tetraiodophenolphthalein can be seen in the smaller dose and by giving it all at one time.

The dose of tetraiodophenolphthalein as previously used was 3.5 grams or less, depending upon the size of the patient. It is made up in a manner similar to that described above, but we prefer to give the solution in two doses, one-half hour apart. If tetraiodophenolphthalein is given in dilute solution made up to 100 cc. with sterile Ringer's solution, as described by Case<sup>3</sup>, it can be given in one dose and any chance of reaction decreased.

Either of the two substances can be given in the morning between 8 and 9 a. m. or in the evening between 5 and 9 p. m. When given in the morning, breakfast is omitted, and a light carbohydrate lunch given at noon. Roentgenograms are taken at 4, 8 and 24 hours. When given in the evening, the evening meal should consist of carbohydrates and breakfast delayed until the first roentgenogram is taken. Immediately after this, a fat meal consisting of cream, eggs, toast and butter is given for breakfast and another roentgenogram taken one and three hours after the fat meal, which produces a rapid emptying of the gall blad-

\*From the Department of Surgery, Washington University School of Medicine, and Barnes Hospital, St. Louis, Mo.



der and demonstrates efficiently its ability to change in size, as suggested by Boyden<sup>4</sup>, and Milliken and Whitaker<sup>5</sup>.

So far, only indifferent results have been obtained from the oral use of phenoltetraiodophthalein, but there is no evident reason why it should not work as well as tetraiodophenolphthalein does by mouth. Any of the capsules, pills, etc., made by reliable pharmaceutical houses are suitable if checked by an open plate of the abdomen to determine if dissolution has taken place. We have found capsules consisting of 12 grains tetraiodophenolphthalein,  $1\frac{1}{2}$  grains sodium carbonate and  $1\frac{1}{2}$  grains of powdered agar, as suggested by Larimore<sup>6</sup> and coated with stearic acid to be very satisfactory. The dose is five to six capsules, which are given at night, with or shortly after the evening meal. Breakfast is omitted and roentgenograms taken at about 15, 19 and 23 hours.

The interpretation of the films is made upon practically the same criteria, regardless of the substance or method used. (This can best be demonstrated by the lantern slides shown). Factors used in diagnosis, named in order of importance are: (1) Density of shadow, (2) Filling defects, (3) Ability to change in size, (4) Contour and, (5) Filling and emptying time. The absence of a shadow has been the most important diagnostic information obtainable and almost infallibly has indicated the presence of a pathological gall bladder. The percentage of correct diagnoses made by Moore and his associates in the Department of Roentgenology has been 97 per cent with the intravenous method and 70 to 80 per cent with the oral.

It was demonstrated early that cholecystography was chiefly a reflection of function of the gall bladder. It has been interesting to note that most of the diagnoses listed as failures have been found in those patients whose gall bladders at operation have shown adhesions to neighboring viscera but were otherwise normal in appearance. It has been shown time after time that a diagnosis of cholecystitis can be made even when the disease is in its early stage and difficult to demonstrate grossly except by careful examination. Most of the failures have consisted of the demonstration of pericholecystic adhesions in the presence of a normal set of roentgenograms. The question is gradually being raised, whether this normal reaction obtained is not an expression of a healed gall bladder, with a normal function, but, surrounded by permanent adhesions.

Results of liver function determination after the injection of phenoltetraiodophthalein have been very satisfactory, that is, if the excretory power of the liver can be considered a fair criterion of its function. This encouragement is further borne out by the fact that the results have checked closely with clinical calculations when they were able to be made. It frequently happens, of course, that slight retention is found in cases where there is no clinical evidence of liver damage, and occurs most commonly in the presence of cholecystitis, but also in association with duodenal ulcers and pelvic peritonitis. There have been no cases of retention without evidence of intra-abdominal infection, carcinoma of the liver or cirrhosis. It is, of course, to be expected that many other conditions might produce a retention. The apparent advantage of the use of phenoltetraiodophthalein in the dose of 40 milligrams per kilo, over any of the other dyes used in liver function determination, lies chiefly in the larger dose. It seems quite evident that a mild liver damage would be more easily demonstrable by placing a heavier load upon the liver in the form of excretion of larger amount of dye.

The determination is carried out by collection of a sample of blood one-half hour after injection and comparison of the serum, after alkalinization, with a set of standards, in a manner similar to that described by Rosenthal<sup>7</sup>. The amount of phenoltetraiodophthalein found normally in the serum one-half hour after injection is under 10 per cent. The greatest amount of retention obtained has been found in patients with cirrhosis in which instances as much as 85 to 90 per cent has been found in the blood one-half hour after injection of the dye. Patients with hepatitis associated with cholecystitis or other intra-abdominal infections have shown much milder retention, usually between 15 and 40 per cent. A few cases of severe hepatitis associated with both cholecystitis and duodenal ulcer of long duration have demonstrated a retention as high as 60 per cent in one-half hour.

#### CONCLUSIONS

1. Of the substances used clinically in cholecystography, phenoltetraiodophthalein has proven the most efficacious. This substance is an isomer of tetraiodophenolphthalein, differing from it in the location of the iodine atoms in the molecule.

2. Reactions of any description after intravenous injection of phenoltetraiodo-

phthalein have been insignificant and can be practically entirely eliminated.

3. Determination of liver function can be obtained simultaneously with cholecystography.

4. The intravenous injection either of the substances used in cholecystography has given us a higher percentage figure of correct diagnoses than oral methods.

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### Malaria in the Treatment of General Paralysis of the Insane

C. R. DOYNE, M.D., Topeka, Kansas

Read at the November 1, 1926, meeting of the Shawnee County Medical Society.

General Paralysis of the Insane, or Paresis, as it is frequently called for brevity, needs no introduction. It has been before the medical profession as far back as history goes and as early as 1497 certain forms of paralysis and syphilis were associated. Much work and discussion followed this announcement and, from the wealth of material at hand, the conclusions reached by the end of the seventeenth century were in favor of the original ideas of Leoncino. These were verified by the advent of the Wassermann reaction, and proven beyond all doubt in 1913 by Noguchi in his official demonstration of the treponema pallidum in the brain of paretics.

Many forms of treatment have been used and some claim fairly satisfactory results. However, there has been a constant study of the cases by those associated with the terminal stages of paresis, and the spirocheticidal drugs have been found to be inadequate.

In hospitals these cases are considered chronic and this was the cause of the original idea of the present method. It had

been noticed that chronic mental diseases would at times develop some acute infection, with high fever and, following this, the patient would improve mentally. This could not be accounted for but the old empirical method of treatment was in vogue and, along with the others, the paretics received attention. The idea at first was to produce pus and await the following results. Severe methods were used, such as injection of irritants, proteins with bacteria, and contaminated milk, but the treatment was as hard on some cases to combat as the disorder. This caused them to look for an infection that would give high fever but still be easy to control, and in 1874 malaria was concluded to be the best. The results obtained were questionable and the cooperation of some of the leading men was lacking, and the method was dropped to show again in 1917, and again in earnest in 1921 and 1922.

It is thought by some that there is a fight of the organism that brings about some of the favorable results. The treponema is a form of protozoa and the plasmodium is a protoplasm. The latter is very active and can be found throughout the body in the tertian type. For this reason and also due to the fact that the tertian is more easily controlled, this type is used.

The malaria treatment is contra-indicated where there is a complication of diabetes mellitus, tuberculosis, severe organic changes of the heart, and pronounced general marasmus.

It is as yet too early to give an opinion without flaws for several reasons, among them being that a certain number of cases of paresis will have remissions, and some have from all points of reason recovered. However, there are cases that cannot stand the medical treatment and as yet there are very few who are in any good physical condition that cannot stand this method. The symptoms of one case are briefly outlined to show the proof of the diagnosis. Two cases are outlined as to their reaction to the treatment. The method of grouping and statistics obtained from authentic reports will show that this method of treatment is worthy of a fair trial.

In hospitals where this form of treatment is used the records show a great decrease in the number of terminal paretics and an increase in the number on parole. Even if these cases are in a state of remission, records also show that the remissions last longer and the improvement in the neurological symptoms and physical condition is more marked.

There is some discussion as how the inoc-



ulation should be made and I will outline the method I use that I have found satisfactory. I do not think the intravenous method has any merits. I am from the south and I do not think the southern mosquito a connoisseur at vena-puncture. However, I know of his success when he comes to malarial inoculation.

There is a claim that malaria develops more rapidly if the intravenous method is used, the symptoms occurring as early as the fourth day. I have had it occur as early as the fifth day with the subcutaneous method and, when the steps needed in the intravenous method are considered and the chance of untoward results, I cannot see that anything has been gained.

The average precaution of a vena-puncture is taken and the blood drawn a few hours after the chill. The shoulder having been washed with alcohol, about two c.c. of the blood is injected just under the skin. That is all that is needed and I have seen no ill result from it. They type must be tertian. The blood is slowly taken up by the circulation and chills will develop in due time. There is no definite period as the symptoms have been seen as early as one week and in some cases as late as twenty-one days. The chills are severe at times and, if there is too much fever or pain, a small dose of Dover's powder will be very satisfactory.

The chills are at times very irregular, some having them every day for a few days, and some every other day. There is no particular hurry about stopping the chills unless the patient does not respond to the time between the paroxysms. There should be a near return to normal after four or five hours, but there will be a loss of weight and anorexia.

After about 21 days the malaria should be stopped and the patient given tonics. The chills are easily stopped by quinine by mouth and respond readily to a little iron and arsenic.

The patients here have been given the blood just after it is drawn; however, it has been held over twenty hours in a solution of sodium citrate and then given and the organisms were found to be active.

When a patient states that he cannot take quinine, it is advisable to take heed. Urticaria following quinine does occur but most of these cases can take the hydrochloride in small doses without this annoying complication. Euquinin is effective and with arsenic will answer the same purpose as any form of quinine.

Case No. 12,642. White male, 38 years of age and no evidence of acute illness.

Train dispatcher. First mental symptoms 13 days before admission. Was at work—became stiff suddenly and could not speak—could hear and understand what was said to him. Attack lasted only few minutes. Went to his home and had two more attacks. Could not walk during spells without assistance—could not drink water. Physician called but attacks had passed before the doctor arrived. Very nervous and had some vomiting. Wife remembers that two months before he had headaches and would pass his hand over his head frequently. Also recalls that for the past two summers he has not been well. Talkative at times and inclined to exaggerate. Ideas became more abnormal after attacks. On admission had general symptoms of paresis—denies infection. Blood and spinal fluid 4 plus. Gold curve 5555555544. Second week actions became uncertain and threats to escape. No insight. Very euphoric—told of car running 340 miles an hour and trains 80 miles with ease. Second month better but no insight.

8-19-1926—Given two cc. blood subcutaneously from man with tertian malaria.

8-27-1926—Pains over body and some fever

8-27-1926—Typical malaria chill.

9- 8-1926—Has continued typical active malaria.

10- 6-1926—Has lost weight—anorexia—started quinine.

10-10-1926—Has had no more chills or fever-gaining weight.

11- 1-1926—Much better-neurologicals better—insight.

Case No. 12,750. White man, 32 years of age. A case of cerebro-spinal syphilis that has passed into paresis. Symptoms typical and confirmed by laboratory. Given salvarsan and mercurosal with slight improvement.

9-7-1926—Given two cc blood from case No. 12,642 subcutaneously.

9-20-1926—Chills started with high fever.

10-2-1926—Has continued having chills and fever at irregular intervals. Lost weight—anorexia.

10-12-1926—Started anti-malarial treatment.

10-20-1926—Has gained in weight—marked improvement in physical and neurological conditions.

11-1-1926—Very much better—active about ward.

Case No. 12,500—White male, 46 years of age—general symptoms of paresis—laboratory reports positive.

Had arsenical treatment with fair results—euphoric and no insight.

10-6-1926—Given two cc blood from Case No. 12,750.

10-20-1926—Has had fever but no chills.

10-22-1926—Had hard chill and high fever.

11-1-1926—In midst of treatment—has lost weight—anorexia—some insight.

Report of treatment of 215 cases and results as to groups.

Group 1—Patients who could return to their professional work and had very few residuals.

Group 2—Improvement but still marked residuals.

Group 3—No improvement.

Group 4—Death during or soon after treatment.

Group 1—36.2 per cent.

Group 2—13.5 per cent.

Group 3—30.3 per cent.

Group 4—20 per cent.

Report of results in 135 patients.

Group 1—11.8 per cent. Working with no residuals noticed.

Group 2—14.8 per cent. Working but residuals noticeable.

Group 3—25.9 per cent. Improvement but still in hospital.

Group 4—25.9 per cent. No improvement.

Death 21.4 per cent. During or just after treatment.

—————R—————

### A CHAT

By the Prodigal

(A social visit, gossip and chat with a brother physician on "Radiant Heat," also reporting an experience in its use and comparing its efficiency, as a therapeutic agent, with its kindred in relieving pain.)

### RADIANT HEAT

The topic of our talk, Doctor, may not be scientifically expressive but it is uppermost in my thought just now, as a therapeutic palliative agent that relieved pain in a patient I have in mind, and one I waited upon personally, during her whole sickness.

The patient is my wife and she and I have lived out the maximum time allotted to mortals on this earth, as set by the sweet Singer of Israel—but not the great excesses of life practised by him and emphasized by his son, who is said to be the author of the Book of Ecclesiastes.

By way of parenthesis—say of them both—as prophesiers of man's longevity

their prophecies are obsolete and at the time they set a limit to human life on earth at "four score years" and belittled its pleasures, they were disqualified to do so from their own experience. Both father and son had eaten too many sour grapes and had their teeth set on edge, to ruminate with any satisfaction. They were both up to date politicians. The son had the edge on the father from example, and improved upon it by marrying and catering to the prominent women in all the tribes round about, and then some. For "Holy Writ" records that "Solomon had seven hundred wives and three hundred concubines (half wives).

Both David and his son Solomon had gormandized and had satisfied their animal appetites until they were dyspeptic and had exhausted their virility, and became despondent and morose, and by the time they had reached a middle age they were luey, gouty, rheumatic, racked with aches and pains, which had been brought on them by their own frolicgacy, and in this way made themselves totally unfitted to give an intelligent and unbiased opinion or guess of life's tenancy on earth or enjoyment to the mortal man, and they wound up their doleful lamentations by saying "If a man did live four score years, all is vanity of vanities and vexation of spirit."

There was a little ditty, some time ago, in the Journal of the American Medical Association that gave an inkling of the conduct of David and Solomon at a time when virtue and morals were at their lowest ebb among the Israelites, and reads as follows—

"King David and King Solomon led merry merry lives,

With many many pretty girls and many many wives.

But, when old age came over them with many many qualms

King Solomon wrote the Proverbs and

King David wrote the Psalms."

Pardon this gossip in our office chat, doctor, but I feel that you, like myself, study for prevention, efficiency, relief and economy in the treatment of a patient and try to avoid all entangling alliances. And further—to use the simple agents and those at hand in our practice when we can get as good results by using them as we can get by using the more costly apparatus which we can ill afford, financially, and that may be dangerous to the life of the patient.

There is not too much known now, of the remote injurious effect of many curative therapeutic agents that are used promiscuously in treatment and when not indicated,



from lack of knowing how to use these dangerous weapons, and from wrong diagnosis. With this digression and preamble to our chat, if you are not too far exhausted, doctor, I will continue the story of "my patient and "Radiant Heat."

In the morning of July 23, 1925, the patient arose, with extra effort, and faltered in her walk. She returned to bed realizing that she had a paralytic stroke. Her left side became paralyzed, including the mouth. About six weeks after the hemorrhage in the brain a creeping neuritis developed. The pain increased in intensity and reached its maximum in about two weeks. It continued, pretty evenly, for two months and ceased as slowly and gradually as it came on. The pain was confined to the left hand, which swelled, the arm, shoulder and neck on the left side showing involvement of the brachial plexus.

There was a feeling of bogginess in the head at times, but aside from this sensation she was conscious all the time of her sickness.

She has regained (October 1926) almost completely the use of the left leg. By forceable exercise and massage the elbow is almost normal in function, can raise the hand to the head with a little extra effort. There is some stiffness in the shoulder joint that does not yield, as yet, to exercise and massage. The hand can be partly closed but not completely, flexion and forceable attempt causes severe pain, the extensor tendons of the left hand are glued (?) at some place in their course. The thumb which was completely paralyzed, has regained its normal function.

The mouth is yet noticeably drawn to the right side. The blood pressure ran from 185 to 214. This pressure, taken in connection with the age of the patient and over-exercising in a hot room the day before she was stricken, with a slight warning—unheeded—was thought to be the cause of the break in the blood vessel or in the brain. However, in 1922 her blood pressure was 240. She had vertigo during the attack but recovered?

What caused the blood pressure, deponent saith not. Do you know? Aside from the paralysis and pain her system functioned almost normally during the attack. The slight constipation was attributed to the opiates given her and her being confined to the bed. Attempted exercise of the hand, arm or shoulder caused excruciating pain.

Treatment. The treatment was practically nil. The drainage was kept free, opiates and narcotics were given sparingly and

as a last resort when all other measures for the relief of pain failed. The following external treatment was used, more or less alternately, throughout her sickness, viz, Diathermy, autocondensation, the ultra-violet ray, radiant heat, hot water bags and the electric pad. Of them all radiant heat gave the most palliative relief. It was exceptional, when the latter was applied to the affected area that she did not get relief from pain sufficient to enable her to sleep for an hour and sometimes longer. The light was left on from one-half to one hour. The most that she could say in favor of the other external applications that were used, "I think I feel easier."

Diathermy is a two-edged sword. It cuts both ways. The application of it is said to increase blood pressure and that of autocondensation to decrease blood pressure. I don't know. Theories like guesses are all right when they hit. How was the radiant heat applied? That is what motivated this office visit and chat.

A paper box was used that was one foot square and one foot deep, open at one end and lined on the inside with white paper. In the center of the closed end of the box a hole was cut through and the male or screw end of a forty watt electric bulb was pushed through the hole to the shoulder of the bulb, from the inside of the box end and the female end of the electric wire plug was screwed on and in this way the bulb was held tight to the under surface of the up-turned bottom of the box. The patient, lying in bed, on the right side, the left arm and shoulder bare, a level foundation was made around the parts for the box to rest upon, of pillows or blankets, towels, etcetera, and the box, open end down, was placed on the level foundation over the exposed surface of the body with the long axis of the box over the long axis of the arm and shoulder, box light tight outside all around, the plug attached to the electric wire, pushed into the wall socket, switch turned on and the treatment began.

The diet was selected and restricted and five drops of the fluid extract of aconite was given, as indicated by the vessel tension.

Tests were made over a period of several weeks, as to the relative merit of pain relief given by the use of hot water bags, the electric pad, diathermy, the ultra-violet ray, and the paper box. The radiant heat in the paper box was the favorite, by odds.

Conclusion. That for economy, convenience, safety and efficiency in a case where diathermy, the violet ray, hot water bags or

the electric pad is seemingly indicated or fails try "Radiant Heat" in its simplicity.

A box six inches in height was tried but the light of the 40 or more watt globe burnt the skin. By trial the proper distance to place the light from the skin was learned to be nine inches. In her case the skin is abnormally sensitive. The light never sunburnt the skin but always pried or mottled it a little. The distance of the light from the skin and the watt power of the bulb used and the sensitiveness of the skin of each patient treated, has to be learned by experiments to give relief. The effect of the radiant heat as shown by the relief of pain is the indication for its continued use. The length of time to leave the light on the painful, exposed area is determined by the relief given and the mottled appearance of the skin, which soon passes away.

The treatment by radiant heat, where indicated is practically free of danger to the patient. The dosage sized by the sensation of the patient, can be removed instantly if from any causes presenting, and is an added offensive agent in the armament of the medical man in his fight to relieve pain in animal life.

Concession. I do not want to be understood as trying to minimize, belittle or cast doubt on the value of diathermy and the ultra violet ray as therapeutic agents. For I believe them to be invaluable when indicated. But when it has been demonstrated that the application of diathermy will cook a chunk of beef and burn it in the center, showing an oozing, only on the outside of the piece of beef, it warns of the great danger of the prolonged or wrong use of diathermy, to human flesh. And no man can tell the heat resistance of the tissues of the tissue of one patient's flesh over that of another with a certainty of safety, in treatment, any nearer than he can tell the length of time it will take to cook tender or tough beefsteak by looking at it.

Confirmatory. A case of pneumonia with pleurisy came to my attention recently. A young man, an electrician, did some wiring for me during my patient's sickness, and of which is herein reported, and saw the radiant heat applied in the paper box and was impressed. Shortly thereafter, he had an attack of pneumonia with pleurisy. In conversation with him October 12, 1926, he said, "Last winter when I had the pneumonia and the pleurisy pain was so severe, the only thing that gave me ease was radiant heat. I did not take medicine to relieve the pain."

Conclusions. So far as compatible with rea-

son, founded upon knowledge, let us in the treatment of a patient consider his safety first, relief second, economy third and if in doubt, let the patient have the benefit of the doubt by giving him a placebo—at any rate let us begin with safety, relief and economy and only in a pending emergency use the dernier resort. For, an agent or a medicine that will do good when properly used—will do harm if improperly used.

NOTE—The paper box method of applying the treatment was not original with me. I do not know if I ever had an original idea. I have forgotten the name of the writer of the book from whom I got the idea but he is authority on practical electrotherapeutics and diathermy.

THE PRODIGAL

## Activities of the Medical School

### THE WORK OF THE HOSPITAL

The main work of the Bell Memorial Hospital is the salvaging of human lives. In addition to this the hospital plays an additional role in that it helps in the education of doctors and of nurses, and teaches the patients many of the rudiments of preventing disease. It is difficult to give a picture of what is done in the hospital without being here and seeing the results of the treatment that the patients get. One of the best ways of telling what the hospital does is a study of the statistics or records of the hospital for one year. The following series of figures appear dry but they are filled with extremely valuable information.

### DETAILED REPORT OF THE BELL MEMORIAL HOSPITAL

	July 1, '24 to June 30, '25	July 1, '25 to July 30, '26
1. No. of County Patients admitted	127	189
2. No. of Free Patients admitted	165	200
3. No. of Pay Patients admitted*	1829	2077
*Not private patients but those who pay a part of their expenses.		
Total patients admitted	2121	2466
4. Births	80	88
5. Deaths	90	111
6. Total Patient Days	30,281	36,892
7. Surgery	7176	9464
8. Medicine	6270	7083
9. Ophthalmology	2780	2839
10. Neurology	2167	2884
11. Pediatrics	2479	2970
12. Ear, Nose and Throat	1362	1987
13. Orthopedics	2420	4252
14. Gynecology and Obstetrics	4229	4179
15. New Born	1298	1234
White	25,016	31,286
Colored	5,266	5,606
Operations, Major	359	365
Operations, minor	1134	1866
Laboratory examinations		28,300
No. of autopsies	71	88
X-ray Examinations and Treatments	3764	3884
Physiotherapy Treatments		2465



## DISPENSARY ATTENDINGS

	July 1, '24 to June 30, '25	July 1, '25 to June 30, '26
Medicine .....	6490	8920
Surgery .....	2363	2396
Ophthalmology .....	4027	4067
Gynecology and Obstetrics .....	2575	3027
Otorhinolaryngology .....	1939	2339
Genito-Urinary .....	3574	4241
Dermatology .....	457	506
Pediatrics .....	576	1069
Neurology .....	669	790
Orthopedics .....	553	753
Total .....	23,223	28,096

IMMEDIATE NEEDS OF THE UNIVERSITY OF  
KANSAS SCHOOL OF MEDICINE

The most pressing needs at this institution are items which result from the present disorganization of the plant here, whereby the different parts of the institution are scattered within the radius of a mile, instead of being within one location.

The portion of the School situated at Lawrence is likewise scattered over different parts of the campus and is crowded and poorly equipped. There are facilities for taking care of 60 students and the entering class of 1926 consists of 85 students.

The following are some of the things that are particularly needed in the Kansas City part of the institution.

A Nurses' Home is very badly needed in order that all the nurses, now housed in six separate homes, may be housed together in one place, thereby giving them better living quarters and insuring the proper supervision of their work. A building is needed which will supply room for at least 80 nurses. Now State spends \$6,000 a year in maintenance and rent of houses for nurses.

We need physical facilities which will bring the Pathology Department and the library on the same ground as that of the hospital. We also need a building to relieve the crowded condition of the out-patient department. In this building today there are over 150 ambulatory patients in addition to 80 students. This leads to a great deal of unnecessary confusion and waste of valuable material and effort. The hospital is also crowded. At least 50 additional beds are needed. During the month of August, for example, 111 patients, mostly women and children, were refused admittance because there were no empty beds. The capacity of the hospital is now 120 beds. It should be increased to 180. The colored ward, in which 24 colored patients are housed is a temporary unit, built of the same material as the army barracks, and naturally cannot be used many more years.

Besides space for additional beds we should have a space for contagious disease, and a place for convalescent patients. There is also no place for advanced tuberculosis cases, who are too dangerous to be placed with other patients in the wards, and yet who afford very valuable teaching material. The state is badly in need of a place for advanced tuberculosis cases. The State Sanatorium at Norton takes care of only the early and curable cases of tuberculosis. The hopeless cases, which are at the same time the most dangerous to the community, have no place provided for them by the State. Dr. Kenney of Norton tells me that he has a waiting list of 80 to 100 patients.

The present physical equipment is such that there is little opportunity for growth. The doctors are constantly complaining because there are not enough patients for demonstration to the students. County authorities are writing in to send patients into the hospital, and we have to refuse admission because of lack of beds. We ought to have more beds for maternity cases, orthopedic, and pediatric cases. The record room is crowded. We have hardly any place to put our files. The X-ray room is inadequate in that there is no proper ventilation, and to install such ventilation would be extremely expensive.

The Medical school is very badly in need of a full time public health official, someone who will organize the public health activities, not only of the Medical School, but of the University and State at large. We need a strong head for the Department of Preventive Medicine and Hygiene who will cooperate with the medical profession of the State in coping with the factors that contribute to ill health.

The following are some of the services rendered the State by the School of Medicine:

## A. Hospital

Treated 2466 patients, with a total of over 35,000 patient days.

Approximately 2,200 operations performed.

150 emergency cases treated.

93 deliveries.

393 private patients.

1708 part pay patients.

193 free patients.

140 county patients.

25,000 laboratory examinations.

3,280 X-ray examinations.

The average cost of a patient bed in the hospital is a little less than \$5.00 a day. A teaching hospital always costs more than a private hospital. Our hospital at present

has a capacity of 120 beds. 15 beds are in private rooms. Those 15 beds only are self-supporting. There are 12 children's beds, for which \$1.00 a day is charged. In addition, there are 8 cribs for new borns for which there is no charge. This leaves 85 additional beds which are charged at a rate of \$12.00 to \$17.50 per week. The cost of taking care of these beds is approximately \$32.00 per week. The State appropriation makes up the difference between the \$15.00 a week paid by the patients and the actual cost of maintaining the bed. Last year the hospital received approximately \$60,000 from the general University budget for its maintenance. In addition, the hospital collected over \$110,000 in fees from the patients.

#### B. The Out-patient Department

During the past year over 28,000 patients were treated in the dispensary. 240 women were delivered in their homes by students under supervision of the obstetrical department. These patients are treated practically free. A nominal registration fee is made, and only the actual cost of the medicine charged. No patient, however, is turned away because of lack of funds. In fact, about 15 per cent of the patients treated here do not pay one cent. In this department about 25 cases of rabies were treated.

#### C. The School of Medicine.

39 students were granted the degree of M.D. in 1926. The total number of medical students for the present year is 124. The fees vary from \$100 to \$125 a year. This is much less than charged by most medical schools. The majority average over \$200 a year for fees. The Pathology Department has performed approximately 2,000 tissue examinations and 194 autopsies, and made 26 examinations for rabies during the past year.

The Medical School has recently established a clinic for crippled children at Hutchinson, with the cooperation of Reno County Medical Society. Here 130 crippled children were examined and treated in the past eight months. No child is brought to the clinic except through some physician, a member of the Medical Society, and the services rendered them are entirely free.

#### D. The Training School for Nurses.

Six Kansas girls were graduated as nurses in June 1926. This was the last class that began training in the old hospital. Classes have been much larger since the new unit was completed. At present there

are 45 pupil nurses. The nurses pay no tuition. They receive their maintenance, and \$10.00 a month to pay for their uniforms

#### SERVICES THAT COULD BE RENDERED THE STATE

The following services could be rendered to the state were additional facilities given to the School:

1. A central place for the care of crippled children over the State whose parents are too poor to provide for their proper care. This is done in many states. For instance in Iowa, there are from 100 to 150 beds for such children.

2. A contagious disease hospital for the entire state. At the present time there is no general contagious hospital.

3. There ought to be psychopathic hospital, particularly for those patients who are in the early stages of mental disorders.

4. There should also be a maternity hospital of the highest grade, where students can be taught the best methods in obstetrical work, and at the same time where patients who are in this condition can be taken care of.

5. A diagnostic clinic for ambulatory pay patients sent by physicians from all parts of the state. Those patients are sent here by doctors who do not have all facilities for the diagnosis of difficult cases or who feel that their patients cannot afford the high fees of the average specialist. Such patients are here only for diagnosis and are to be returned to their doctors as soon as this diagnosis is made.

—R—

#### Exophthalmic Goiter and Toxic Adenoma

Allen Graham, Cleveland, (Jour. A.M.A., Aug. 28, 1926), has been unable to recognize a single symptom or sign that is necessarily pathognomonic for exophthalmic goiter as opposed to toxic adenoma; nor has he recognized a single anatomic or histologic alteration in the thyroid, in either the adenomatous or the nonadenomatous portion of the gland, that is necessarily pathognomonic for exophthalmic goiter as opposed to toxic adenoma. The degree of hypertrophy and hyperplasia of the thyroid determines the quantity of iodine that will be tolerated, without untoward effects, in both exophthalmic goiter and toxic adenoma. The reaction to iodine is fundamentally the same in cases of exophthalmic goiter and toxic adenoma. Graham sees no alternative but to regard exophthalmic goiter and toxic adenoma as clinical variations of a single morbid state.



# THE JOURNAL

of the

## Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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ANNUAL DUES ARE PAYABLE ON JANUARY 1. IF THEY ARE NOT PAID BY FEB. 1 THE MEMBER IN ARREARS IS SUSPENDED.

### HELP THE MEDICAL SCHOOL

Another legislative body will soon convene and in due course it will be asked to make suitable and adequate provisions for the continuance and development of the Medical School.

If there had been any concerted effort on the part of the profession to show these men what the school has done for the state at large and what its possibilities are, the prospects would probably seem brighter at this time than one can honestly say they are.

What may be done with the legislature almost ready to begin its deliberations is something of a problem. Those members on the legislature that are friendly to the school can probably accomplish more than anyone else. Nothing can be expected from a lobby, at least one is led to that conclusion by past experiences.

A little can be expected from the influence of some members of the profession with the senators and representatives from their own sections of the state. This can be multiplied by the number of doctors that can be persuaded to take enough interest

in the school to interview their representatives and senators.

At the last annual meeting of the Society, and at the two preceeding meetings, those present expressed the unanimous opinion that the medical school should not be moved from its present location. The proposition that it should at some time be necessary to remove the medical department to Lawrence was at least one of the grounds upon which the appropriation for new buildings was defeated by the last legislature. The expression by the State Society seemed to have no weight at that time and it remains to be seen if the repeated expression of its wishes in the matter will have any weight with this legislature.

There are a few who have become discouraged, who do not believe that Kansas will ever be able or willing to develop and support the kind of medical school that will do credit to the state—some of them frankly say that Kansas should make the necessary appropriations now or should abandon the field to those who are willing and able to develop a great school and a great medical center at Kansas City. Another failure by the legislature to provide for adequate facilities at Rosedale will add to the number of the discouraged ones, and it will be more difficult to get appropriations for maintenance.

The indications are that this is a very critical time for the school and all those who are at all interested in its future should take an active part in whatever campaign is to be made this year.

In another place in this issue of the Journal is published a synopsis of the activities of the school and of its needs. Every member of the Society should read it carefully and prepare himself to discuss the subject with those he may interest in its behalf.

### LET EVERYONE HELP

There will probably be some bills before the coming legislature that are obnoxious to the medical profession and some of them may be passed. There will probably be some bills before the legislature that are very

favorable to the medical profession and perhaps none of them will be passed.

In either event there will be considerable disappointment and a good many of us will want to know why the State Society did not do something about it. All the State Society can do is to pass resolutions and appoint committees. The resolutions have no effect and the committee's possible influence is measured by the influence of one of its members multiplied by the number of members of the committee. At least that is the usual circumstance. If the committee has the funds to work with it may keep the members notified of pending legislation and request their cooperation in an effort to defeat or to pass the pending measure. If the profession in the state would take as much interest in pending legislation as they do in passed or failed legislation there would be less reason for complaint.

The legislature may not always consider the views of the medical profession, but in some cases the action of the legislature has been based on what they were led to believe was the prevalent opinion of the doctors in the state. In some instances at least, two or three physicians have put forward their individual opinions as expressive of the opinion of the majority, much to the dissatisfaction of the latter, in the ultimate outcome. In these instances the opinions of a few have been accepted by the legislature because the opinion of the majority was not available.

It is important that when the members of the Society are notified that a certain measure is pending each one of them immediately write to his senator and representative expressing his views of the merits of that particular measure.

During the coming session an effort will be made to secure copies of all bills that in any way concern the medical profession and members of the Society will be notified that such bills are pending. The result, in many instances at least, will depend upon whether the members so notified are sufficiently interested to express an opinion to those with whom the fate of the pending measure lies.

#### THE CANCER PROBLEM

The cancer problem has been solved—once again—according to the daily newspapers. This time by Dr. J. T. Glover of New York and Toronto, Canada, who thinks he has not only isolated the micro-organism causing cancer, but also produced an anti-toxic serum for its cure. And incidentally he has secured a considerable amount of publicity for himself and several others of more or less high standing in the medical profession.

Doctors are pretty well fed up on these sensational stories of cancer cures, but the people read them greedily and the more sensational the stories are the more they are impressed by them. The average man or woman, who does not have cancer, is fully as much or more interested in these remarkable scientific feats of medical men, as those who are hopeless victims of the disease. The last story is forgotten by the time the next one is published.

There is no particular need to discuss the merits of the claims of Dr. Glover. If he has found anything that promises results, some time must elapse before such claims as have been made for it can possibly be justified.

The Editor of the Journal of the American Medical Association is quoted as saying that "Dr. J. T. Glover had been trying for years to interest it in his reputed cure but that no foundation for optimism had been laid in the eyes of leading cancer experts."

According to the interview by Dr. J. Willis Amey he has been using this treatment for three years. Just a few months ago a meeting was held in New York, at which were present many of the cancer experts from over the world for the purpose of reviewing the work that had been accomplished in cancer research, but in its report this sensational "discovery" of Dr. Glover's was not mentioned.

For very excellent reasons stories of this kind are given little consideration by the medical profession. He who claims to have found a cause for cancer or a cure for cancer will need to present a great deal more evi-



dence than would be required for similar claims in any other field of medicine. There have been too many theories based upon a few facts, and the facts have not multiplied as rapidly as have the theories. Theories may help to solve the problem, but in themselves do not furnish sufficient data upon which a cure for cancer can be worked out.

Any claim for immunizing properties in a drug or serum would certainly be difficult to substantiate and simply leads to a strong suspicion of commercialism.

#### SUPREME COURT UPHOLDS LIQUOR LIMITATIONS

The United States Supreme Court has recently decided that that part of the prohibitory law which limits the amount of alcoholic liquor a doctor may prescribe for his patients to one pint in ten days, is constitutional. Five of the justices concurred in the opinion and four dissented.

This decision is of no particular concern to the doctors in Kansas. A good many years ago, before the amendment was adopted, our legislature decided that alcoholic liquors had no medicinal value and prohibited their use. No deaths have been reported that might have been prevented by the administration of alcoholic liquor, and few if any cases of blindness have been reported as the result of the administration of denatured alcohol in such emergencies.

This decision may seriously cripple the efficiency of the medical profession in those states where they have enjoyed the privileges granted by the prohibitory law, but if the Kansas doctors have been able to adjust their practice to a no-liquor basis the men in these other states ought to devise ways and means by which to make the "pint-in-ten-days" meet the requirements.

Concisely stated, as interpreted by one unversed in legal phraseology, the court held that the Eighteenth Amendment conferred upon Congress the power to make whatever laws might be necessary to enforce the prohibition it provided; that the states, when they adopted the amendment, surrendered their police power over the practice of med-

icine in so far as it might be infringed upon by any regulations the Federal government might find it advisable to make for the enforcement of prohibition; that since the members of the medical profession were not agreed as to the medicinal value of alcoholic liquor Congress was justified in limiting or prohibiting its use; and since some members of the medical profession did prescribe alcoholic liquor for beverage purposes Congress was justified in putting certain limitations on the amount to be prescribed and making certain restriction on such prescriptions.

The source of evidence upon which the Judiciary Committee based its recommendation to the House of Representatives is suggested in the following which is quoted from the text of the opinion as it was published:

"The Eighteenth Amendment, besides prohibiting by section 1 the manufacture, sale and transportation of intoxicating liquors for beverage purposes, confers upon Congress by section 2, in terms, the power to enforce the prohibition by appropriate legislation. That the limitation upon the amount of liquor which may be prescribed for medicinal purposes, is a provision adapted to promote the purpose of the amendment is clear.

"That the provision is not arbitrary appears from the evidence considered by Congress . . . . That evidence disclosed that practicing physicians differ about the value of malt, vinous and spiritous liquors for medicinal purpose, but that the preponderating opinion is against their use for such purposes; and that among those who prescribe them there are some who are disposed to give prescriptions where the real purpose is to divert the liquor to beverage uses.

"Indeed, the American Medical Association, at its meeting in 1917, had declared that the use of alcoholic liquor as a therapeutic agent was without "scientific basis," and should be discouraged, and, at its meeting in June, 1921, had adopted a resolution saying "reproach has been brought upon the medical profession by some of its members who have misused the law which permits the prescription of alcohol."

"With this as the situation to be met, the Judiciary Committee of the House of Representatives reported with favorable recommendation the bill which became the Act of

November 23, 1921, whereby the prescription of other intoxicating liquors is subjected to the following restrictions. . . . ."

This would indicate that resolutions of this kind have more weight than has generally been accorded them. It suggests that when a few men undertake to express by resolution the sentiments of the medical profession at large they should be fairly certain of the correctness of their inferences. It is to say the least a matter to be regretted that the Judiciary Committee of the House of Representatives should have based its recommendations to any extent upon those resolutions, for they did not fairly represent the attitude of the American Medical Association, or its attitude has materially changed since that time. The following is quoted from an editorial in the Journal, A.M.A. of December 4.

"The duty of the medical profession to confine itself within these limits is therefore clear. Prior to this decision, a reasonable man might well have believed that the act represented arbitrary class legislation. If under such circumstances a physician, deciding for himself that the limitations were void, disregarded them—particularly when he felt that the health and possibly the life of a patient was at stake—he might have been regarded as acting within his rights as a citizen, challenging the validity of the act and at the same time being prepared to defend himself in court if necessary. But now that the United States Supreme Court has declared that all the limitations and distinctions made by the act are constitutional and within the power of Congress to impose, justification for ignoring the act cannot be found. The more rigidly physicians abide by the law, the greater will be the chance for relief; for, if alcoholic liquors have medicinal value, the public after all, not the medical profession will suffer. The fact that the limitations on the medicinal use of liquor were sustained by a bare majority of the court indicates the strength of the contention of the American Medical Association and Dr. Samuel W. Lambert of New York, on whose behalf the suit just determined was initiated, that such limitations were invalid. If relief is to come at all, it must come now through an act of Congress."

There may be something in this suggestion, but the public has suffered (?) in Kansas for a good many years and nothing has

happened to the "bone dry law" up to this date. It would take an epidemic of emergency fatalities from lack of alcoholic stimulants to impress a Kansas legislature. During these many years but one member of that body has had the courage to propose a modification of the law, and although he was a doctor he received practically no support from the members of his profession. Naturally, therefore, a Kansas man has little confidence in the prospect for increasing the scope of alcoholic therapeutics by any influence the public may have with Congress, or anything Congress may do of its own initiative. Apparently state legislatures, and the same has been said of Congress, are more impressed by one hundred loud talking fanatics than by a hundred thousand ordinary voters. At any rate they know what the loud talking fanatics think.

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### CHIPS

Few people get kleig eyes by looking on the bright side of life.

Regular medicine has never been so generally infected by a decomposition of intelligence as it is now by the Cults.

Scientists are closing in on the cosmic. Together with the newly discovered Coolidge Radioactive wave and the Milikin cosmic wave they are nearing the goal of finding out what that "Void" was made of which is mentioned in the first chapter of Genesis and second verse.

The most powerful microscope, known as the ultra-microscope, was invented by J. E. Barnard, a British scientist. It is said to magnify twelve million times and can be adjusted to a millionth part of an inch.

In a letter recently received it was asked if the Kansas University recognized D.O. as a degree. It was stated that in the annual catalogue D.O. was carried after the name of a member of the faculty.

Based on the fact that nickel and cobalt are found in minute quantities in the organs and tissues of animals and that the pancreas is relatively rich in these metals and that they are concentrated in insulin preparations, small quantities of nickel or cobalt have been injected into patients suffering from simple diabetes with beneficial results, rendering the urine sugar-free.



If one is asked to state what a complete diagnosis is, he will be tempted to say that it is the proper classification of the group of symptoms and physical finding appearing in a given case. At any rate that seems to coincide with the modern conception of diagnosis. A better reply would be that a complete diagnosis implies the determining of the location and character of any pathologic condition of the tissues or organs, the cause and the nature of any disturbances of functions of the organs of the body, with a view to their removal or correction by proper treatment.

In studying the growth promoting qualities of fruit and vegetable juices, Davis and Stillman (American Journal Diseases of Children, October 1926) concluded that carrot, spinach or tomato juice may be substituted for orange juice. Winter cabbage was not satisfactory. Small young carrots were better than larger and older ones.

Fukushima concluded from some experimental investigation (Japan Medical World) that the subarachnoid injection of colloidal silver is the best treatment for bacterial encephalitis. The healing process may be due to the stimulation given to the meninges, thus facilitating the appearance of polynuclear leucocytes in the cerebrospinal fluid.

Imal in studying immunization with mixed vaccines found that sometimes the immunization by mixed vaccines was less than in the controls. He concluded (Japan Medical World) that mixed vaccines would not always give better results because there would develop competency tendencies among the given antigens for the production of antibodies.

Nakamura and Yokota (Japan Medical World) found that eggs increase gastric secretion, raw eggs more markedly than boiled or half-boiled eggs. The secretion was more rapid and greater in amount. The yolk of the egg was more active than the white. When 100 grams of the egg-yolk was administered to a dog the total gastric juice was seven times as much as was secreted after administering the white of the eggs. There is a very marked difference in the amount of gastric secretion caused by the yolk of eggs and that caused by fish, beef, soup, bread, rice, etc.

After reading an article on diet published in what purports to be a medical journal one has no occasion to wonder at the advice given by some of the writers for lay

magazines. Only a "nut" would attempt to follow the instructions given in most of these articles, but there must be a good many "nuts" is the number of such articles is an index of their popularity.

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### KANSAS MEDICAL LABORATORY ASSOCIATION

#### The Use of the Laboratory as an Aid in Diagnosis When Typhoid Fever Is Being Considered

NOBLE P. SHERWOOD, M.D., Ph.D.

When typhoid fever has to be considered in the differential diagnosis of a case, the physician is confronted with the problem of laboratory findings and their interpretation. It would seem quite obvious that the value of the laboratory work would depend upon the kind requested, the efficiency of its execution and its rational interpretation. I am aware that for economic or other reasons only one kind of laboratory findings other than blood counts by be obtainable at one time and under existing conditions. Such laboratory results will, most likely, be reports of blood cultures, Widal's, or bacteriological examinations of feces or urine and it is hoped that the following suggestions may be of value.

**Blood Counts.** It is usually considered that the normal leucocyte count for adults is approximately 7500 cells per cubic millimeter. A noticeable increase is spoken of as a leucocytosis while a noticeable decrease is called a leucopenia. That does not mean that 7800 white cells would be called a leucocytosis or that 7000 would be a leucopenia. Many physicians and laboratory workers regard the absence of a leucocytosis during a P. U. O. as of the same significance as a leucopenia and call it a leucopenia. In typhoid fever a leucopenia is generally observed. The white count is frequently around 5000 to 7000. In children between 5 and 10 years of age I have observed several whose counts were as high as 9000 to 11000, but in each case subsequent counts were much lower.

When the kinds of white cells are observed it is to be noted that the mononuclear types of cells and not the polymorphonuclear leucocytes are apparently increased, and there seems to be fewer eosinophiles. Normally the polymorphonuclear neutrophils constitutes around 65 per cent of the white cells, the eosinophiles about 1 per cent and the basophiles perhaps a half of one per cent and the mononuclear cells the remainder. In typhoid, paratyphoid,

and influenza the percentage of polymorphonuclear leucocytes is frequently between 50 and 60 per cent, the eosinophiles decidedly under 1 per cent while the mononuclears appear more numerous. Even in an epidemic one should hesitate to make a tentative diagnosis of typhoid fever in a patient with a decided leucocytosis, unless positive cultures are obtained or complications are present that would explain such findings. As an aid in remembering some of the conditions that give relative and not unfrequently leucopenias, some one has suggested the combination of letters MMITT, which may be pronounced Mit and stands for Measles, Malaria, Influenza, Typhoid, and Tuberculosis. Tubercular peritonitis is a good example of a tubercular condition giving such a picture.

To understand, better, the significance of results of blood culture, Widal's and bacteriological examinations of the feces and urine it might be helpful to review some of the statistical data collected by Gay.

**Blood cultures.** Coleman and Buxton made 1602 cultures and noted that 89 per cent were positive during the first week and that there was a decreasing percentage of positive cultures obtained each week as evidenced by only 38 per cent during the fourth week and 26 per cent thereafter. Mann, Rainsford, and Warren reported very similar results during the third and only 26 per cent during the fourth week.

**Widals:** In a series of cases reported by Park and Williams they found that the Widal was positive in 20 per cent of the cases during the first week, in 60 per cent during the second, in 80 per cent during the third and in 90 per cent during the fourth week. Somewhat higher results for the first week have been reported by Gay and others, but all find that as the disease progresses the percentage of positive Widal reactions increase up to between 90 and 100 per cent during the fourth week.

**Stool Cultures.** In a series of 144 cases studied by Brion and Kayser, 32 per cent gave positive cultures of *B. Typhosus* the first week, 35 per cent the second and 45 per cent the third week. Bohne reported from 0 to 23 per cent during the first 2 weeks and 100 per cent during the fourth week. Others have observed that stool examinations during the first week yield relatively a much smaller percentage of positive cultures than during the succeeding weeks.

These results, then, would suggest that blood cultures are the most satisfactory laboratory procedure during the first week.

They are of about equal value with the Widal during the second week and of much less value than the Widal during the third and fourth week. Blood cultures during the first week are evidently of more value in diagnosis than stool examinations at any period of the disease. The value of the latter reaches a maximum during the third and fourth week. It should also be noted that very few laboratory workers report 100 per cent positive results by any one single laboratory procedure in typhoid fever, although by properly choosing the time, an efficiency of 90 per cent or better is not uncommon. A combination of laboratory procedures is likely to give a higher percentage of positive results than one single procedure. Especially after the first week.

In evaluating the significance of positive findings by any of these procedures one should remember:

1. That the so-called typhoid blood picture is not entirely specific for typhoid fever but is also characteristic of paratyphoid fever, infection with Gaertner's bacillus, tubercular peritonitis, influenza and a few other conditions.

2. Positive blood cultures are of definite and decisive diagnostic value.

3. When positive Widal's are reported one should consider the history as to an immunization or a previous attack of typhoid, but should not be entirely blinded by a positive history.

4. When positive stool or urine cultures are reported one has to inquire as to a history of typhoid previously and remember that numerous studies indicate that perhaps three-tenths of one per cent of the population at large are typhoid carriers.

A pyogenic infection, e.g. endocarditis, occurring in a typhoid carrier might be the source of conflicting laboratory findings. A more confusing condition would be influenza in a typhoid carrier. Second attacks of typhoid fever and attacks in individuals who had received supposedly immunizing injections of typhoid bacterins, while rare, have been reported.

In summarizing then, the blood count and picture in typhoid is a leucopenia with a relative increase in mononuclear cells and for all practical purposes an absence of eosinophiles. Blood cultures are the most logical single laboratory procedure during the first week and of very little value during the 3rd or 4th week. The opposite holds for both Widal's and stool examinations. Finally the importance of a good history is quite evident in interpreting either positive or negative findings.



## Legislation of Interest to Physicians Pending in Congress, November, 1926.

### FEDERAL LYE LEGISLATION

S. 2320. An Act to safeguard the distribution and sale of certain dangerous caustic or corrosive acids, alkalies, and other substances in interstate and foreign commerce. This is frequently referred to as the Federal Lye Bill. It requires household packages of lye and other caustic substances, distributed in foreign and interstate commerce and in commerce wholly within any territory or the District of Columbia, or within any other jurisdiction under the exclusive control of the United States, to be labeled so as to give notice of the inherent danger of their contents. A federal law is needed to supplement state laws, since state laws cannot reach foreign and interstate commerce and commerce in exclusively federal jurisdictions. The bill named has passed the Senate. It has been reported favorably by the Committee on Interstate and Foreign Commerce of the House of Representatives, with an amendment that does not change its effect. This bill has the endorsement of the American Medical Association. It is believed that if our several state medical associations and their component societies and individual members lend their active cooperation, this bill will become a law during the approaching session of Congress.

Please be careful to distinguish between this bill, S. 2320, already enacted by the Senate and now pending in the House of Representatives with a favorable committee report, and two House of Representative bills, H. R. 8305 and H. R. 10823.

H. R. 8305 is the original bill introduced on the initiative of the American Medical Association and is identical with S. 2320, with the exception of a few minor details. S. 2320, however, has the advantage of having been already enacted by the Senate and having been favorably reported by the House committee. For that reason it is the bill to be supported.

H. R. 10823 is a bill introduced as a substitute for H. R. 8305, representing an effort by interests outside of the Association to strengthen that bill. The strengthening process proceeded so far, however, as to evoke a storm of opposition, so that there seems to be no likelihood that this bill can be enacted.

To repeat, the bill of choice is S. 2320, now pending in the House of Representatives.

Note.—The Senate and House of Repre-

sentatives Committees that passed favorably on the bill named in the heading are made up as follows:

Senate Committee on Interstate Commerce: James E. Watson, Ind.; Albert B. Cummins, I.; Bert M. Fernald, Me.; Frank R. Gooding, Ida.; James Couzens, Mich.; Simeon D. Fess, O.; Robert B. Howell, Neb.; Guy D. Goff, W. Va.; W. B. Pine, Okla.; Frederic M. Sackett, Ky.; Ellison D. Smith, S. C.; Oscar W. Underwood, Ala.; Key Pittman, Nev.; William Cabell Bruce, Md.; C. C. Dill, Wash.; Burton K. Wheeler, Mont.; and Earle B. Mayfield, Texas.

House Committee on Interstate and Foreign Commerce: James S. Parker, N. Y.; John G. Cooper, O.; Edward E. Denison, Ill.; Schuyler Merritt, Conn.; Carle E. Mapes, Mich.; Walter H. Newton, Minn.; Homer Hoch, Kan.; Adam M. Wyant, Pa.; Olger B. Burtness, N. D.; John E. Nelson, Me.; John D. Fredricks, Calif.; Thomas J. B. Robinson, Ia.; Thomas W. Phillips, Jr., Pa.; Milton C. Garber, Okla.; Alben W. Barkley, Ky.; Sam Rayburn, Tex.; George Huddleston, Ala.; Clarence F. Lea, Calif.; Harry B. Hawes, Mo.; Tilman B. Parks, Ark.; Robert Crosser, O.; Ashton C. Shallenger, Neb.; and Parker Corning, N. Y.

### THE SHEPPARD-TOWNER ACT

H. R. 7555. An Act authorizing for the fiscal years ending June 30, 1928, and June 30, 1929, appropriations for carrying out the provisions of an Act entitled "An Act for the promotion of the welfare and hygiene of maternity and infancy, and for other purposes," approved November 23, 1921. The purpose of this bill is to prolong the life of the Sheppard-Towner law. It has passed the House of Representatives and is pending in the Senate, where it has been favorably reported by the Committee on Education and Labor. This bill as passed by the House of Representatives provides for an extension of the life of the law for two years. As reported in the Senate by the Committee on Education and Labor, the period of extension has been reduced to one year. Proponents of this bill frankly admit that whether the Sheppard-Towner law be now extended for one year or for two years, they will seek further extensions. The American Medical Association has gone on record as opposed to the Sheppard-Towner law.

S. 2696, an original Senate bill, is of the same purport as the bill discussed above and is now pending before the Committee on Education and Labor of the Senate. It is not likely to be reported; there seems no

reason for reporting it in view of the fact that the House of Representatives' bill of the same purport has already been reported. Opposition may well be directed, however, to both measures and to the principle underlying them.

Another bill, H. R. 10986, introduced in the House, April 5, 1926, provides for an outright repeal of the Sheppard-Towner law. This bill is now pending before the Committee on Education and Labor and its enactment should be urged by the profession.

Note.—The Senate and House of Representatives Committees that passed favorably on the bill named in the heading are made up as follows:

Senate Committee on Education and Labor: Lawrence C. Phipps, Colo.; William E. Borah, Ida.; James Couzens, Mich.; Jesse H. Metcalf, R. I.; Hiram Bingham, Conn.; Frederick H. Gillett, Mass.; Andrieus A. Jones, N. M.; Thaddeus H. Caraway, Ark.; Woodrbridge N. Ferris, Mich.; and Royal S. Copeland, N. Y.

House Committee on Interstate and Foreign Commerce: James S. Parker, N. Y.; John G. Cooper, O.; Edward E. Denison, Ill.; Schuyler Merritt, Conn.; Carl E. Mapes, Mich.; Walter H. Newton, Minn.; Homer Hoch, Kan.; Adam M. Wyant, Pa.; Olger B. Burtness, N. D.; John E. Nelson, Me.; John D. Fredericks, Calif.; Thomas J. B. Robinson, Ia.; Thomas W. Phillips, Jr., Pa.; Milton C. Garber, Okla.; Alben W. Barkley, Ky.; Sam Rayburn, Tex.; George Huddleston, Ala.; Clarence F. Lea, Calif.; Harry B. Hawes, Mo.; Tilman B. Park, Ark.; Robert Crosser, O.; Ashton C. Shallenberger, Neb.; and Parker Corning, N. Y.

#### THE HARRISON NARCOTIC ACT

H. R. 11612. A bill to amend an Act entitled: "An Act to provide for the registration of, with collectors of internal revenue, and to impose a special tax upon all persons who produce, import, manufacture, compound, deal in, dispense, sell, distribute, or give away opium or coca leaves, their salts, derivatives, or preparations, and for other purposes," as amended. A companion bill is pending in the Senate, S. 4085, A Bill to strengthen the Harrison Narcotic Act of December 17, 1914, as amended, and for other purposes. These bills were introduced subsequent to the recent session of the House of Delegates of the American Medical Association in Dallas, and therefore did not come before the House for discussion. They have been strongly opposed, however, in the Journal of the American

Medical Association and in the Bulletin of the American Medical Association, and in a hearing before the subcommittee of the House Committee on Ways and Means, which has the bill in charge. The major purpose of these bills are as follow:

A. To deny registration under the Harrison Narcotic Act for a period of from one to two years to any physician convicted of any violation whatsoever of the act, no matter how technical and unimportant the offense may be.

B. To require collectors of internal revenue to refuse registration under the Harrison Narcotic Act to physicians whom such collectors believe to be narcotic addicts. No provision is made for notice and hearings before such refusal, nor for an appeal from the collector's decision.

C. To authorize and require pharmacists to refuse to dispense narcotic drugs on any prescription issued by a physician, if the pharmacist is of the opinion that the physician did not issue the prescription in the course of his proper professional duties.

D. To forbid absolutely and under any and all conditions whatsoever the ambulant treatment of narcotic addicts.

E. To make physicians keep more records than are now required of narcotic drugs administered and dispensed.

This legislation was introduced in Congress at the instance of the Treasury Department. It is understood that the Department is now willing to withdraw certain of its recommendations, but it seems still insistent on others. In any event, the bills are still before Congress for action in their original form.

Note.—The Committees which have in charge the bills above named are made up as follows:

Senate Committee on Finance: Reed Smoot, Utah; George P. McLean, Conn.; Charles Curtis, Kan.; James E. Watson, Ind.; David A. Reed, Pa.; Richard P. Ernst, Ky.; Robert Nelson Stanfield, Ore.; James W. Wadsworth, Jr., N. Y.; William B. McKinley, Ill.; Samuel M. Shortridge, Calif.; Furnifold McL. Simmons, N. C.; Andrieus A. Jones, N. M.; Peter G. Gerry, R. I.; Pat Harrison, Miss.; William H. King, Utah; Thomas F. Bayard, Del.; and Walter F. George, Ga.

House Committee on Ways and Means: William R. Green, Ia.; Willis C. Hawley, Ore.; Allen T. Treadway, Mass.; Isaac Bacharach, N. J.; Lindley H. Hadley, Wash.; Charles B. Timberlake, Colo.; Henry W. Watson, Pa.; Ogden L. Mills, N. Y.; James C. McLaughlin, Mich.; Charles C. Kearns,



O.; Carl R. Chindblom, Ill.; Frank Crowther, N. Y.; Harris J. Bixler, Pa.; Charles L. Faust, Mo.; Richard S. Aldrich, R. I.; John N. Garner, Tex.; James W. Collier, Miss.; William A. Oldfield, Ark.; Charles R. Crisp, Ga.; John F. Carew, N. Y.; Whitmell P. Martin, La.; Henry T. Rainey, Ill.; Cordell Hull, Tenn.; C. C. Dickinson, Mo., and Robert L. Doughton, N. C.

#### STANDARDIZATION OF CLINICAL THERMOMETERS

S. 2059. An Act to provide for regulating traffic in certain clinical thermometers, and for other purposes. This bill has passed the Senate and is now pending in the House of Representatives, before the Committee on Interstate and Foreign Commerce. Before the same committee there is pending, too, a House bill of the same purport, H. R. 9184. These bills require that every clinical thermometer entering interstate or foreign commerce, or sold or offered for sale in the District of Columbia, or in any Territory or other place under the exclusive jurisdiction of the United States, shall be submitted to the United States Bureau of Standards for testing, marking, and certification before being shipped, sold, or offered for sale. The purpose of the bill is obviously praiseworthy, but the desirability of the proposed method of testing is questionable. The American Medical Association has expressed preference for the method of testing embodied in another bill, S. 2142, which, however, the Senate Committee on Interstate and Foreign Commerce passed by when it reported favorably S. 2059, the bill the Senate enacted.

The bill passed by, to the principle of which the American Medical Association has given its adherence, does not require every thermometer to pass through the Bureau of Standards before sale, but allows each manufacturer the option of sending his thermometers through that bureau, or of establishing and maintaining a testing system of his own, satisfactory to the bureau. Under this bill, manufacturers licensed by the Bureau of Standards assume responsibility for the accuracy of their products, subject to fine, seizure of their output, and revocation of their licenses in the event of default. The choice between the two methods seems to depend in part on the relative increases in the prices of clinical thermometers liable to result from them, and in part on the question as to how far the government should undertake, not merely to supervise private business, but to oust private persons, whether manufactur-

ers of clinical thermometers or practitioners of medicine, from the conduct of their own affairs and responsibility therefor.

Note.—In the Senate, the bill named in the heading came before the Committee on Interstate Commerce. In the House, it came before the Committee on Interstate and Foreign Commerce. The personnel of these committees is stated above, under Section I, Federal Lye Legislation.

#### CHIROPRACTIC IN THE DISTRICT OF COLUMBIA

H. R. 9055. An Act to regulate the practice of chiropractic; to create a Board of Chiropractic Examiners of the District of Columbia, and to punish persons violating the provisions thereof. The scope of this bill is limited to the District of Columbia. The District of Columbia, however, is the National Capital, and Congress legislates for it. The people of the District, including the physicians practicing there, have no voice in Congress. They are not represented by a senator, representative, or even a delegate. Your senators and your representatives control the situation. It is for that reason that this bill is brought to your notice.

The District of Columbia has a good medical practice Act. Lax enforcement of that Act, however, has permitted a swarm of chiropractors and other cultists to gain a foothold in the District. They treat the sick without license, but without interference by the police authorities. This group of irregular practitioners is now endeavoring, under the guise of chiropractors, to procure the enactment of the bill named above. The bill purports to be a chiropractic bill, but "chiropractic" as defined by the bill is so broad that any charlatan might claim under it to be a chiropractor, and almost any school teaching quackery, whether in the District of Columbia, or elsewhere, might easily become a chiropractic school within the meaning of the District Law if this bill should be enacted. Licentiates, under the proposed law, may treat disease and injury by any method so long as they do not "prescribe" medicine and do not practice "surgery." In so far as "surgery" is concerned, a licentiate may apply any "chiropractic" measures he sees fit. The bill proposes to vest control of the licensing of the so-called chiropractors in a board of three men of the same stripe. The bill has passed the House of Representatives and is now pending in the Senate. Vigorous action should be taken if its enactment is to be prevented.

A bill of like purport, S 3299, has been introduced into the Senate and is still pending. Opposition should be directed against both bills and the principle underlying them, namely, vesting in a sectarian board the right to establish standards of its own with respect even to the basic sciences underlying the treatment of the sick.

Note.—The Senate and House of Representatives Committee that passed favorably on this bill are made up as follows:

Senate Committee on the District of Columbia: Arthur Capper, Kan.; Wesley L. Jones, Wash.; O. E. Weller, Md.; J. W. Harreld, Okla.; William B. McKinley, Ill.; Coleman Du Pont, Del.; Frederic M. Sackett, Ky.; William H. King, Utah; Morris Shepard, Tex.; Carter Glass, Va.; Royal S. Copeland, N. Y.; Edward I. Edwards, N. J.; and M. M. Neely, W. Va.

House Committee on the District of Columbia: Frederick N. Zihlman, Md.; Oscar E. Keller, Minn.; Charles L. Underhill, Mass.; Clarence J. McLeod, Mich.; Ernest W. Gibson, Vt.; Edward M. Beers, Pa.; Henry R. Rathbone, Ill.; Gale H. Stalker, N. Y.; Frank R. Reid, Ill.; Henry L. Bowles, Mass.; Mass.; Frank L. Bowman, W. Va.; Robert G. Houston, Del.; Florian Lampert, Wis.; Christopher D. Sullivan, N. Y.; Thomas L. Blanton, Tex.; Ralph Gilbert, Ky.; William C. Hammer, N. C.; Allard H. Gasque, S. C.; Mary T. Norton, N. J.; Chauncey B. Little, Kan., and Joseph Whitehead, Va.

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#### **Abstract of Minutes of Meeting of the Board of Trustees, Held in Chicago, November 18, 19 and 20.**

All members of the Board were present at this, the fall meeting; also the President and the President-Elect.

#### **SUPPLY AND CONTROL OF MEDICINAL LIQUOR**

The Board instructed Dr. W. C. Woodward, executive secretary of the Bureau of Legal Medicine and Legislation, to go to Washington, together with Dr. W. H. Mayer chairman of the Committee to Cooperate with the Commissioner of Internal Revenue, to confer with the Assistant Secretary of the Treasury with respect to proposed legislation for the control of medicinal liquors. Drs. Woodward and Mayer were instructed to use their best endeavors to bring the proposed legislation into line with the resolution passed by the House of Delegates in re-

gard to maintaining and marketing the supply of medicinal liquor.

#### **PROPOSED BILL REQUIRING NOTICE IN ADVANCE OF ISSUANCE OF REGULATIONS REGARDING ALCOHOLIC LIQUORS**

The draft of a proposed bill intended for enactment by Congress, requiring notice to be given before the issuance of regulations promulgated by virtue of any act of Congress to govern the importation, production, sale or distribution of alcohol and alcoholic liquors and of narcotic and other habit-forming drugs, was considered by the Board and the principles laid down therein were endorsed. Instructions were given that if feasible an effort should be made to secure the enactment of the proposed bill by Congress.

#### **RAILROAD RATES TO WASHINGTON**

The Secretary and General Manager reported to the Board that earnest effort had been made to secure summer excursion rates for the benefit of those members and Fellows of the Association in the Far West who may attend the annual session in Washington, but that the passenger association having jurisdiction in the matter had refused to make the concession requested.

#### **FULL-TIME REPRESENTATIVE IN WASHINGTON**

The General Manager announced that in accordance with instructions received from the Board of Trustees at its last meeting, arrangements had been made for a full-time representative to be on duty in Washington during the sessions of Congress.

#### **COMBINATION OF QUARTERLY CUMULATIVE INDEX AND INDEX MEDICUS**

The Board approved the agreement entered into between the General Manager and the Editor of the Journal with the Carnegie Institution and the librarian of the Surgeon-General's Library with respect to the combination of the Quarterly Cumulative Index and the Index Medicus. This combined publication will in the future be known as the Quarterly Cumulative Index Medicus, and the first number will appear in April, 1927.

#### **CONFERENCE ON PUBLIC HEALTH EDUCATION**

The Board appointed a committee to consider plans for the calling of a conference



at the headquarters office on public health education.

#### PUBLICATION OF NAMES OF PHYSICIANS WHOSE LIQUOR PERMITS ARE REVOKED

A communication addressed to the Board of Trustees and objecting to the publication in The Journal of the names of physicians whose liquor permits have been revoked was given careful consideration. The general opinion of the Board, as brought out in the discussion, was to the effect that the members of the profession in the state referred to in the communication mentioned are not more lax than are those in other states, but that the prohibition administrator in the particular territory concerned is more rigorous in his methods of enforcement of the law than are the administrators in other states. It was decided that the publication of names of physicians whose liquor permits have been revoked is to be continued and that a statement concerning the matter shall be published in the editorial columns of The Journal.

#### EXPERT OPINION EVIDENCE

Dr. G. E. Follansbee, Cleveland, and Dr. W. C. Woodward, secretary of the Bureau of Legal Medicine and Legislation, were instructed to go to New York, December 1, to confer with the Committee on Jurisprudence and Law Reform of the American Bar Association on the subject of expert opinion evidence. An invitation to the Association to send representatives to the meeting of this committee was extended by its chairman, Hon. Henry W. Taft.

#### EXTENSION OF THE REGISTRATION AREA

The Secretary of the Association reported to the Board that favorable replies had been received from the secretaries of several state medical associations to the letter concerning birth and death registration and the extension of the registration area, which he had addressed to them under instructions from the House of Delegates.

#### MEDICAL ETHICS

After discussion of a suggestion made by the President-Elect, Dr. Jabez N. Jackson, with respect to the teaching of ethics in medical schools, it was decided that the Board of Trustees should express to the Council on Medical Education and Hospitals its view that lectures on medical school ethics should constitute a portion of the curriculum in every medical school approved by this council.

The Board adjourned at 10 a. m. on Fri-

day, to attend the sessions of the conference of secretaries of constituent state medical associations.

#### REPORT OF COMMITTEE ON SCIENTIFIC EXHIBIT

The report of the Committee on Scientific Exhibit was presented through its chairman, Dr. D. Chester Brown. On recommendation of this committee, it was decided that: (1) in case a gold, silver or bronze medal is awarded by the Committee on Awards to two or more individuals jointly participating in one exhibit, the participants will be requested to designate one person as the custodian of the medal, and each of the other members of the group concerned will receive an embossed certificate stating that a medal of a certain kind was awarded to the group; (2) in case of a certificate of merit awarded to two or more individuals jointly, certificates will be issued to each participant.

#### MISCELLANEOUS BUSINESS

Reports from standing committees were received by the Board and a considerable amount of important routine business was transacted.

Adjournment was taken on Saturday morning, November 20, until the next regular meeting of the Board, to be held in February, 1927.

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#### SOCIETIES

##### OTTAWA COUNTY MEDICAL SOCIETY

The regular meeting of the Ottawa County Medical Society was held at Dr. Hinshaw's office at Bennington, November 3.

Pursuant to an invitation by Dr. Hinshaw the members of the Society met at his home and enjoyed a most excellent dinner at six thirty. An entertainment followed, after which we repaired to his office and proceeded with our regular order of business.

It has been the consensus of opinion that we received greater benefits from informal discussion than from papers.

Our discussion led to Physical Therapeutics under the head of Massage, Electricity and Hydrotherapeutics. The importance of listening attentively to a patient's "tale of woe" thus gaining his confidence was dwelt on at some length.

It was decided to discuss "Office Practice" at the next meeting. Dr. Vermillion was chosen to lead the discussion.

The meeting, after accepting an invita-

tion from Dr. Harvey to dine at his home on the eve of our next meeting, adjourned, all feeling that an enjoyable and profitable evening had been spent at Bennington.

J. F. Bruer, Secretary.

#### STAFFORD COUNTY SOCIETY

Society met in St. John at 2:30 P. M., November 10, with the following members present:—Butler, Shonkwiler, Scott, Stafford; Hart, Macksville; Mock, Ulrey, Stivison, Scott, St. John. Visitors and guests, Dr. Axtell, Newton; Drs. Bernstorf, Jenkins and Campbell, Pratt.

The scientific program consisted of a paper on Peritonitis by Dr. Bernstorf, in which he stressed the importance of accurate diagnosis as it is not always good surgery to operate immediately, although that is what is usually demanded. The paper was complimented and discussed by several society members and by Dr. Axtell.

At the conclusion of the scientific program the society adjourned to a larger room where about 30 men and their wives, from the professions, business interests and trades, residents of St. John, were addressed by Dr. Axtell, who spoke on the subject of diet. He also spoke of the wonderful advance in medical science in the last 70 years, what had already been accomplished and still greater accomplishments in the not distant future.

This meeting marks the beginning of a new activity on the part of the Society and contemplates using it as a means of educating the public in the history and accomplishments of scientific medicine, what it has done from the days of Hippocrates down to the present time. How it has eradicated plagues, developed a scientific knowledge of disease processes, lengthened the span of life and made safely habitable vast areas of rich country that formerly dealt death to all invaders. These are the acknowledged accomplishments of scientific medicine and they have been so quietly and unostentatiously accomplished that the people as a whole do not realize it. The Medical profession has at last awakened and is realizing the importance of carrying these truths directly to the public.

This County Society is but one of the thousands constituting the American Medical Association but it is determined to do its part in this great work. This meeting demonstrates that the public enjoys and endorses the idea and the experiment will be continued. Next month a speaker will be secured through the Publicity Committee

if possible and the meeting held in a more commodious building.

J. T. Scott, Secretary.

#### WILSON COUNTY SOCIETY

The Wilson County Medical Society held its regular monthly meeting at the Brown Hotel Tuesday evening, November 16th. Those present, Drs. Wiley, Flack, Young, Duncan of Fredonia; Drs. McGuire, Sharpe, Smith, Neodesha; Dr. Addington, Altoona; Dr. Dewey, Buffalo.

The Society took action as requested regarding Medical Relief in Disaster, appointing the president as chairman and the State Society and A.M.A. notified of action.

The secretary was instructed to send our sick brother, Dr. J. L. Moorehead, flowers. Dr. Moorehead has been quite sick for a month and is only a very little improved.

The matter of immunization of children against diphtheria was discussed along the lines recommended by Dr. C. H. Kinnamen of the State Board of Health. It was decided to assist in this work providing the public manifested interest enough to warrant us doing so. The County Health Officer, Dr. W. H. Young, is to carry on propaganda of education for the next sixty days and our action depends on results of the educational effort.

The secretary mentioned the fact that Dr. True of the State T.B. Assn. is advertising and carrying on her work here without the help or aid of the regular profession, *AND IS CONSORTING WITH AND WORKING WITH IRREGULARS*. After all the Christmas stamps sold, it seems this could be handled a little better. More of this later.

Resolution upon the death of Mrs. Elsie Julia Young, wife of Dr. W. H. Young, whose death occurred after a lingering illness, in July, was spread on the minutes of this society and a copy sent to Dr. Young.

Dr. E. C. Duncan read a short paper on new things in medicine in 1926. This was a compilation from various authentic sources of a late progress.

Closing time having come—9 P.M.—the society proceeded to close. Dr. McGuire still had a paper on focal infections, but as the Doctor was not in good shape on account of certain streptococci which had invaded is subcutaneous tissues near the spine of the seventh cervical, we decided to hear his paper in December.

Must not neglect to mention the fact that this society has secured the signatures of



over 2000 voters to a petition calling for election to build a new county farm building, so much needed in this county.

E. C. Duncan, Secretary.

#### NORTHEAST KANSAS SOCIETY

The fall meeting of the Northeast Kansas Medical Society was held at Kansas City, November 16.

The following program was presented:

J. A. Fulton, M.D., Acute Pulmonary Tuberculosis and Treatment.

H. E. McCarthy, M.D., Polycystic Kidney. (Case Report.)

L. B. Spake, M.D., Lingual Thyroid (Clinical case).

Lingual Tonsil (Clinical case).

L. G. Allen, M.D., Visualization of Gall Bladder.

R. C. Lowman, M.D., Fracture Neck of (Clinical case).

E. A. Reeves, M.D., Rupture of Uterine Scar after Classical Caesarean Section Femur (Case report).

The visiting physicians were guests of the Wyandotte County Medical Society, at Dinner at 6:30. Following the dinner, Harry Alexander, M.D., Associate Professor of Medicine, Washington University, presented a paper on "Angina Pectoris."

The program as presented was arranged by Geo. H. Hobson, M.D., Secretary of the Wyandotte County Medical Society.

Earle G. Brown, Secretary.

#### SHAWNEE COUNTY SOCIETY

The annual meeting of the Shawnee County Medical Society was held at the Hotel Jayhawk, Monday evening, December 6. The dinner was attended by approximately 100 members and their wives.

Dr. Richard L. Sutton of Kansas City presented a most interesting talk on his recent hunting trip in Southern Asia, and illustrated his remarks with approximately 300 lantern slide pictures.

Officers were elected as follows:

J. L. Lattimore, M.D., President.

Frank C. Boggs, M.D., Vice President.

Earle G. Brown, M.D., Secretary.

Milton B. Miller, M.D., Treasurer.

W. E. McVey, M.D., Member, Board of Censors.

Earle G. Brown, Secretary.

#### DEATHS

William A. Farr, Miltonvale, Kansas, died October 10, 1926 at Long Beach, California of arteriosclerosis and nephritis. He was a

graduate of the University Medical College of Kansas City, Missouri in 1898.

Henry Phelps Monroe, Waverly, Kansas, aged 71, died September 24, 1926. He was a graduate of the College of Physicians and Surgeons of Keokuk, Iowa, 1883.

Dr. A. A. Raub, Topeka, Kansas, aged 89, died October 3, 1926, at St. Francis Hospital of Senility. He was a Civil War Veteran.

Dr. Frank H. Erwin, Morrill, Kansas, a graduate of the Central University of Kentucky Medical School, Louisville, Kentucky in 1882 and a member of the Kansas Medical Society, died October 11 of heart disease, aged 66.

Dr. Samuel Adams, age 49, died in Tacoma, Washington, December 1, 1926. He graduated from the Kansas Medical College in 1908 and practiced at Lebo for many years prior to moving to Washington. He was a veteran of the Spanish American and the World Wars.

#### MEDICAL SCHOOL NOTES

Dr. Frank R. Teachnor was re-elected Treasurer of the Western Surgical Association at the annual meeting held in Duluth.

Drs. W. K. Kimble and M. J. Owens attended the meeting of the Interstate Post Graduate Assembly of North America, held in Cleveland during the month of October.

Dr. Earl C. Padgett has been appointed on the Surgical Staff of the University of Kansas, as Research Fellow and Plastic Surgeon.

At the Sixth Annual Meeting of Southwestern Branch of the American Urological Association which was held in St. Louis, November 1st and 2nd, Dr. Nelse Ockerblad was elected President for the coming year. Dr. Clinton K. Smith was re-elected Secretary.

It is interesting to note, that among a group of University Medical Schools whose graduates are admissible to the final examination by the examining board in England, Kansas University Medical School is among those listed.

The last issue of the University of Kansas Graduate Magazine was devoted entirely to the Medical School. Herein articles concerning the various departments and the work that is being done were included.

The K. U. Medical Alumni will present

the Jackson County Medical Society a portrait of the Bell Memorial Hospital, at the dedication of the new Jackson County Library in the Medical Arts Building.

Dr. L. L. Bresette read a paper before the Wyandotte County Medical Society on the "Sympathetic Nervous System and Its Relationship to Symptoms of Abdominal Disease."

Dr. C. B. Francisco talked before the Academy of Medicine on "Fractures of Both Bones of the Forearm."

Dr. Logan Clendening read a paper on "Pleural Effusions" before the Saline County Medical Society.

Dr. Shubert Henry, 25, Health Officer of Kansas City, Kansas, has been appointed as a Medical Assistant in the Dispensary, at Bell Memorial Hospital.

Dr. G. E. Knappenberger held a clinic on "Heart Disease" before the Seventh District, at Kingman, Kansas, October 8, 1926.

Dr. Logan Clendening read a paper, before the Jackson County Medical Society on "The Care of the Over Weight Patient."

Dr. H. M. Gilkey read a paper before the Jackson County Medical Society on "Life Saving Measures in the First Year of Life."

At the meeting of the Northeast Kansas Medical Society, the following faculty members spoke: Dr. L. B. Spake, on "Lingual Tonsils," Dr. C. C. Nesselrode, on "Presenile Gangrenè," Dr. Louis G. Allen on "The Use of Iodized Oil in the Diagnosis of Pulmonary Pathology," Dr. Bresette on "Bronchiectasis."

Dr. Thomas G. Orr read a paper before the Reno County Medical Society, at Hutchinson, Kansas, on "Gall Bladder Disease," November, 17, 1926.

Dr. H. R. Wahl gave a talk before the Pittsburg Medical Society on "Disease of the Gall Bladder."

Dr. Thomas G. Orr read a paper before the Kansas City Clinical Society, October 11, 1926, on "Blood Chemistry of Intestinal Obstruction."

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### Cauterization and Cautery Excision of Cancer

The results of a study of 1,000 cases of cancer of the surface of the body and readily accessible areas just beneath the sur-

face, treated by the cauterization or cautery excision methods, are reported by Arthur Carroll Scott, Jr., Temple, Texas (Journal A.M.A., Oct. 9, 1926). Of the 1,000 cases studied, nineteen had to be discarded because of insufficient data; therefore this paper actually deals with 981 cases. The operations performed were: Cauterization operations, 308; cautery excision operations, 482, and cautery gland dissection with excision, 191. The operative mortality in the entire series was 0.4 per cent. All the operative deaths occurred in gland dissection cases (operative mortality, 2 per cent). One patient with a neck dissection died of pneumonia nine days after operation. A patient who had a breast dissection died of embolus nineteen days after operation. Two patients with neck dissections died of secondary hemorrhage at eleven and nine days, respectively. The patients are grouped according to years elapsing since operation, as follows: five years or longer since operation, 469; three years or longer since operation, 617; less than three years since operation, 364. Patients with distant metastases in this series of 981 cases died on an average of eighteen months after operation, the longest time recorded being thirty-three months. The average appearance time of local recurrences was eight months, and the longest was twenty-six months. This was a basal cell epithelioma. After four cases of recurrent basal cell epithelioma are eliminated, the longest appearance time of any recurrence was sixteen months. In the group of traced cauterization cases in which operation was done three years or longer previously, there were twelve, or 6.6 per cent, local recurrences. Four of these were basal cell epitheliomas. The average time of appearance was sixteen and a half months; the longest, twenty-six months. The others were squamous cell epithelimas. Their average appearance time was eight and a half months and the longest sixteen months. In the group of patients traced and operated on three years or longer, there were seven, or 3.5 per cent, local recurrences. They were all squamous cell epitheliomas, grades 2 and 3. The average appearance time was eight months, and the longest was twelve months. There were four, or 3.7 per cent, local recurrences in patients who had gland dissections. The longest appearance time of these was the one in the breast cancer group, twenty-seven months. In addition, there have been eight other local recurrences, in patients operated on less than three years. Among 130 cases of lip cancer, there are eighteen patients



who had gland dissections. There are only eight patients operated on three years or longer, five with glands involved and three with glands uninvolved. There were no local recurrences. In the group of 112 cases in which there was a local operation only, there were twenty-five patients traced with cautery excision operation. There were no local recurrences in either the three or the five year group. Of the twenty-seven patients who had a local cauterization operation three years or longer, 11 per cent had local recurrences; 9.4 per cent of the five year patients in this whole group had local recurrences. Of the entire series of 981 patients, 246 with cauterization operations have no pathologic diagnosis. The authors are firmly convinced that any type of treatment of malignant growths should be based on the degree of malignancy.

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#### Treatment of Carcinoma of Bladder by Radical Surgical Methods

E. S. Judd, Rochester, Minn. (Jour. A.M.A., Nov. 13, 1926), is of the opinion that surgeons have been too ready to give up radical operations for malignant disease of the urinary bladder which is for a long time confined to the bladder and immediate tissues, and therefore preeminently suited to a surgical treatment. Not all cases can be cured, but a higher proportion will be cured by radical surgical treatment than by any other method. Total cystectomy and implantation of the ureters into the rectum should be performed more often in cases of cancer of the bladder. Up to the present time the failures have been due to too conservative operative procedures and often to delay in operating on account of following some less radical plan first. Judd reviews 708 cases, of which 575 were traced. Of this number, 238 patients are alive and the average length of life has been fourteen months; the shortest, six months; the longest, thirty-six months.

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#### Air Embolism Complicating Thoracic Surgery

Ten cases of air embolism complicating thoracic surgery are reported by George W. Reyer and Harold W. Kohl, Denver (Journal A.M.A., Nov. 13, 1926). A summary of these cases reveals that: In seven of the ten cases the patients were either in the sitting position or were attempting to arise from the table when the symptoms of air embolism became manifest. In 40 per cent, the symptoms appeared without actual in-

troduction of air. In four cases, nausea was the initial symptom. In seven cases, the patients complained of very severe pain at the site of the operation. In six cases, tonic and clonic convulsions were a prominent feature. In six cases, there were mild to severe visual disturbances. Six of the patients became totally unconscious. Nine of the ten cases showed evidence of pleural adhesions in the roentgenogram. It is of especial importance to note that all but three of the patients were in a position in which the head was higher than the body when the onset of the symptoms and signs occurred. The authors are of the opinion that cases of air embolism are more frequent than one would be led to suspect by reviewing the literature, and that those cases reported as pleural shock are in reality mild cases of cerebral air embolus. Cerebral air embolism may result from injecting air into the pulmonary veins or dilated veins in the parietal pleura, adhesions or chest wall. In the latter, the air reaches the pulmonary veins by the venous anastomosis along adhesions. This accident may occur also without actually introducing air, the air being aspirated into the vein from the needle and connecting tube, from the pleural cavity, or from the air spaces in the lung, or by direct passage from the left to the right heart by way of a patent foramen ovale. It is important to keep the head of the patient lowered for at least ten minutes following the withdrawal of the needle, if symptoms or circumstances indicate the possibility of the occurrence of an air embolism.

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#### Interrelation of Lesions of Bone Marrow, Liver and Spleen

Since the spleen, as one of its functions, produces white blood cells, William J. Mayo, Rochester, Minn. (Journal A.M.A., Nov. 13, 1926), says that one would expect that it would be associated with some of those malignant diseases of the white blood cells of which the terminal condition called splenomyelogenous leukemia is a good example. In the earlier stages of splenomyelogenous leukemia in younger persons, after the use of radium to reduce the white cells to approximately 30,000, the removal of the spleen sometimes seems to be remarkably beneficial. While the blood does not become normal, carefully selected patients maintain a fairly normal existence for a greater length of time than comparable patients whose spleens have not been removed. A few have lived and were able to work for years. There are in the body a number of

organs which undergo early obsolescence. The thymus disappears at birth. The appendix, as pointed out by Ribbert, gradually undergoes obliterative senile changes which have been mis-called appendicitis obliterans. The lymphatic system, as pointed out by Charles H. Mayo about thirty years ago, undergoes a certain degree of obsolescence with age. The lymph nodes reach the height of their function in early adult life, after which they gradually undergo atrophy and progressive fibrosis. Because of this progressive limitation of the lymphatics, cancer does not spread as rapidly in old persons as in those of the early and middle decades of life. The spleen reaches its height at puberty and gradually becomes obsolescent, so that at middle age it has little function; most of the diseases with which it is associated occur between puberty and middle age. Mayo presents a statistical review of 424 cases of splenectomy. The most frequently occurring diseases for which the spleen was removed were: Splenic anemia, 115 times; hemolytic jaundice, 72 times; pernicious anemia, 62 times; myelogenous leukemia, 41 times; septic splenomegaly, 24 times; portal cirrhosis (secondary purpura, 1), 19 times; biliary cirrhosis, 15 times; syphilitic splenomegaly, 10 times; hemorrhagic purpura, 13 times. The hospital mortality for the entire group was 10.1 per cent. It was highest (31.6 per cent) in the portal cirrhosis cases. In the splenic anemia group, the mortality was 11.3 per cent.

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#### Mutation Forms of Tubercle Bacillus

In a study of various conditions under which mutation forms of the tubercle bacillus may develop, it was found by H. C. Sweany, Chicago (*Journal A.M.A.*, Oct. 9, 1926), that mutation takes place with regularity during vegetation, depending on the fundamental law of variation together with a particular alteration of environment. A constant favorable environment is difficult to maintain for a long period of time either in old cultures or lesions. In either instance, split forms may appear that are vastly different from the tubercle bacillus. Accordingly, there are produced mutation forms that may assume a great variety of cultural, morphologic and pathologic characteristics. The two most common types of mutants are the bacillary and the coccoid forms, although filter passing forms also appear to exist. Bacillary forms may pass over into coccoid forms and granules, and coccoid forms may grow into bacilli if the

medium is suitable. The mutation forms appear to develop from some of the gram-positive granules, which are perhaps resting stages of tubercle bacilli. When cocci are formed, there is a tendency to develop first diplococci, and later, various tetrad and staphylococcus-like forms may develop. Bacillary forms also may develop. Many of these mutants are not pathogenic. Many are of low pathogenicity, while others undoubtedly play a definite role in disease processes. The suggestion is offered that certain chronic diseases (like Hodgkin's disease and polyserositis) may be caused by mutation forms of tubercle bacilli.

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#### Specialist in Pathology Needed at Knoxville, Iowa, Hospital

The United States Civil Service Commission states that there is a vacancy in a position of specialist in pathology at the Veterans' Bureau Hospital at Knoxville, Iowa, and that applications are being received for that position.

The entrance salary is \$3,800 a year. Promotion to higher grades may be made in accordance with the civil service rules.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D.C.

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#### Diphtheria Antitoxin—Then and Now

Some of our readers may recall the appearance of anti-diphtheria serum in pioneering antitoxin days, and the volume of the dose. It would do their hearts good to get a glimpse of the blue label antitoxin that Parke, Davis & Co. are now supplying—a practically water-white liquid in a syringe package of the latest design, the needle separately enclosed in a glass tube in such a manner that the shaft of it is not touched by the operator as he attaches it to the syringe.

And a dose of 10,000 units occupies no more space than 3000 units or less occupied in those early days.

Children still die of diphtheria—more's the pity, for a specific remedy is available. They die because the antitoxin is not given soon enough or in a dose large enough. Antitoxin is not a piece of magic, black or white, but an accurately measurable biologic agent; a 10,000-unit dose will neutralize a definite quantity of diphtheria toxin. It neutralizes the toxin by combining with it, and that's the end of it; it can do no



more. Hence the necessity of an adequate dose before the patient is fatally poisoned.

Parke, Davis & Co. recently issued a booklet on the prophylaxis and treatment of diphtheria, and we are authorized to state that any physician can obtain a copy by writing to the firm for one—Parke, Davis & Co., Detroit, Michigan.

**FOR SALE**—On account of age, a \$7,000 annual cash Eye, Ear, Nose and Throat practice that is growing at the rate of nearly \$1,000 per year. A younger and better qualified man can soon raise this to \$15,000 or \$20,000 per year. It is the leading practice in the Upper Rio Grande Valley and can be kept so. Part cash, balance from income of office. James Miller, M.D., McAllen, Texas.

**WANTED**—Salaried Appointments for Class A physicians in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nation-wide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan, Chicago. Established 1896. Member The Chicago Association of Commerce.

**FOR SALE**—Will sell practice and location in the county seat of one of the best counties in Kansas. Not necessary to buy residence unless desired. Office furniture and fixtures, medicine and good will are all that would be necessary to swing this deal. Address J. D., care of Journal.

**MORSE WAVE Generator**; Save \$50.00 clear on any new model you may choose. Dr. F. E. Dargatz, Kinsley, Kansas.



**D-ZERTA** is a sugar-free jelly powder, which simply by the addition of boiling water and subsequent cooling yields a tempting fruit flavored jelly. D-Zerta is appetizing in appearance, of appealing aroma and agreeable to the palate; a most delicious dessert especially recommended for the diet in diabetic and obesity cases.

**20 SERVINGS—\$1.00**

*Assorted flavors in each package*

THE JELL-O COMPANY, Inc.

Le Roy, N. Y.

Bridgeburg, Can.

**D=Zerta**  
*A Sugar-free Dessert*

# Grandview Sanitarium

KANSAS CITY, KANSAS

The Grandview Sanitarium was completely destroyed by fire. Fifteen years active work in the sanitarium business enabled us to know our needs for the future. We have planned, built and completed what we believe to be an ideal place and are open and ready for business. Thanking our friends for their patronage in the past and assuring you we are prepared to give as good service as can be had in any sanitarium, we remain,

Very truly yours,

E. F. De VILBISS, M. D.,  
Superintendent.

Office 917 Rialto Bldg., Kansas City, Mo.

### Deep Roentgen-Ray Therapy in Treatment of Carcinoma of Bladder

One hundred and twenty cases of bladder tumor treated by radio-therapy are analyzed by Charles A. Waters, Baltimore, (Journal A.M.A., Nov. 13, 1926). He says that the best treatment for superficial papillary carcinoma, whether localized or extensive, is a combination of deep roentgen-ray therapy with applications of radium applied directly to the surface of the growth. Radium alone has been very successful in handling this type of case, but frequently so much radiation is required that the destruction of the tumor is followed by a severe radium ulceration. In his experience, the results obtained by the combination of deep roentgen-ray with radium are better when the tumor has received from 600 to 800 milligram hours of radium before the roentgen-ray treatment is started. By the combination of radium with roentgen-ray treatment, most of these tumors can be destroyed with a minimum amount of injury to the bladder, and in many instances with but little or no irritation of the bladder mucosa. When the growth is an infiltrating carcinoma, though still operable, Waters believes that radical resection should be carried out, since it offers the greatest chance of complete cure. Twenty-five per cent of the infiltrating growths in the series of cases reported on by Waters occupy positions that render them inoperable, or they are so extensive that radical removal is impossible. In this group, when it is possible to apply radium directly to the growth, both radium and deep roentgen-ray treatments should be given a trial, for in a certain number of the cases favorable results can be obtained by this method alone. But in cases in which this procedure does not yield the results hoped for, or in cases in which one feels that the growth is sufficiently localized to warrant implantations of radium needles, the bladder should be opened suprapubically, and screened radium needles should be implanted throughout the growth. But if the growth is so extensive that a total of more than 2,500 milligram hours is necessary, in order thoroughly to destroy the cancerous areas by implantations, this method should not be considered. Within the last few years

diathermy has been used in a number of clinics. Waters' experience with this form of therapy is too recent to warrant the drawing of any definite conclusions.

Finally, the great tendency to recurrence of tumors of the bladder, following their apparent destruction by fulguration, irradiation of deep roentgen-ray treatment, makes it imperative that patients return at frequent intervals for cystoscopic examinations. In at least five of the patients, in whom recurrences ultimately resulted in death, complete cures might well have been obtained had they returned regularly for observation and treatment before the recurrences had become too extensive. In a few cases in which the patients have returned for observation, the recurrences, when found, have responded well to radium alone. This is especially true of the noninfiltrating papillary carcinomas. Even in cases that are incurable, regardless of the treatment employed, deep roentgen-ray treatment is an excellent palliative measure, in that it tends to control hemorrhages and to decrease nerve root pains.

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### Cholecystography in Diabetes Mellitus

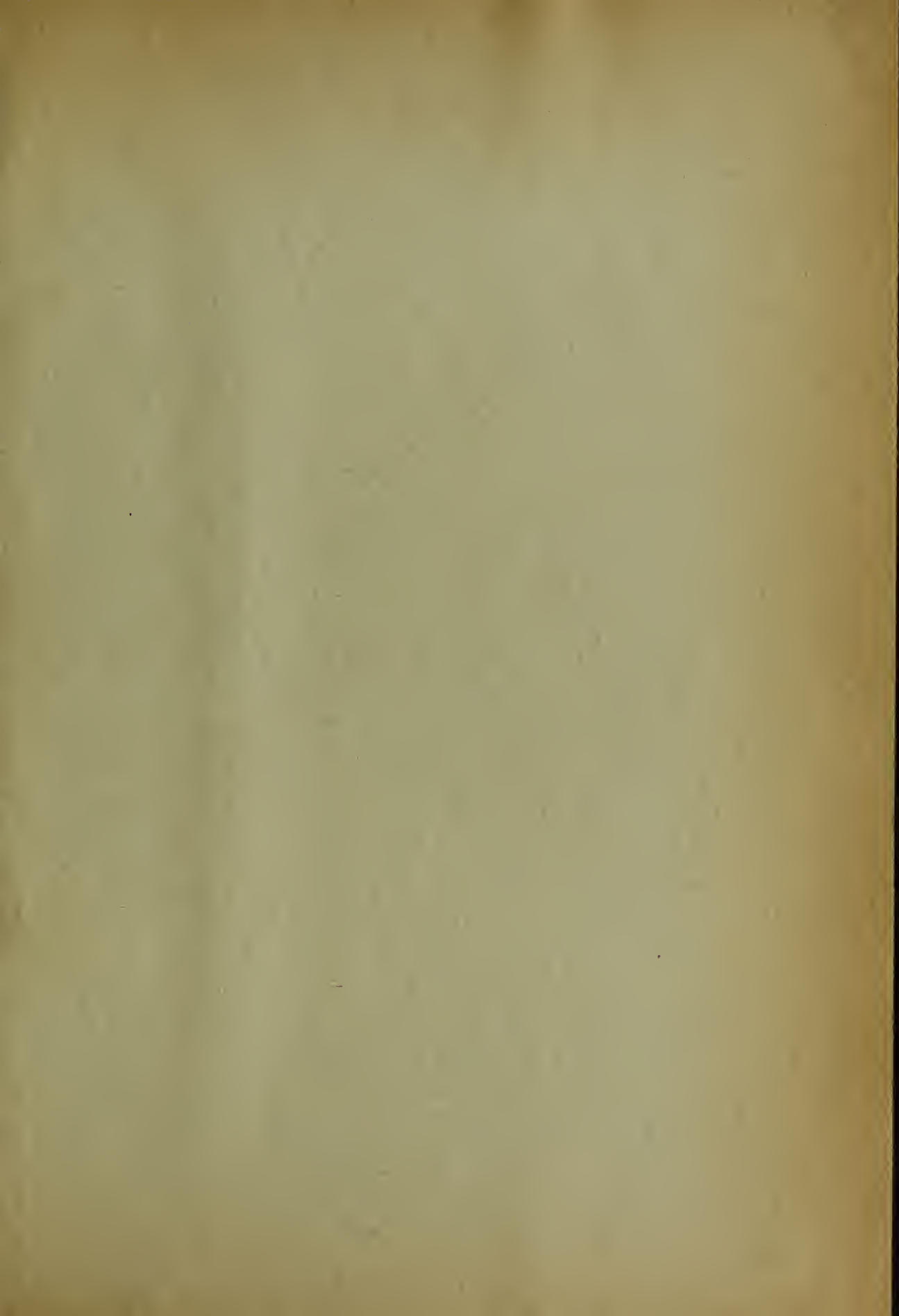
M. K. Tedstrom, Corinth, Miss.; R. C. Bond, W. H. Olmstead and Sherwood Moore, St. Louis (Journal A.M.A., November 13, 1926), made use of the Graham-Cole method of cholecystography to study the gallbladders of seventy diabetic patients. 44% past the age of 40 showed abnormal cholecystograms. Abnormal cholecystograms occur a decade or more earlier in women than in men. The histories of these patients have been carefully gone into. Six histories were considered typical of gallbladder disease; five of these patients later showed abnormal cholecystograms. Four other patients gave questionable histories of gallbladder disease. All of these showed abnormal cholecystograms. Out of twenty-four patients showing abnormal cholecystograms, only nine, or 37.5 per cent, gave suggestive histories. It is pointed out that these data are of no importance as far as the causation of diabetes is concerned, unless it can be shown that the incidence of cholecystitis in the population is considerably lower than found in diabetic patients.















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